THE PRODUCTION AND MANAGEMENT JOURNAL OF THE NORTH AMERICAN PULP AND PAPER INDUSTRY

15,690 TONS
of chemical recovery capacity
WITH 102 B&W UNITS
IN 18 STATES

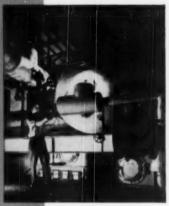




From Florida to Washington — from California to Maine — B&W Recovery Units serve the nation's vast wood-pulping industry.

Having a rated fuel capacity totaling almost 50 million pounds of dry solids per day, these B&W units efficiently recover heat and chemicals from waste liquors in kraft, soda, and magnesium bisulphite pulping processes. Since World War II, 31 units have been installed (or ordered), with an average steam capacity of 90,860 pounds per hour.

The performance of these units is proof that B&W has figured prominently as a pioneer in modern recovery techniques for the pulp and paper industry.





P-53

Pulp & Paper, July. 1950. Val. 24, No. 8. Published monthly except April, when publication is semi-monthly, at 71 Calumbia St., Seattle 4, Wash. Subscriptions: U. S. and Canada, \$3.00; other countries, \$4.00. Reentered as second class matter Oct. 17, 1947, at the Post Office at Seattle, Wash. under the Act of March 3, 1879, original entry as second class matter authorized May 20, 1927. Capyright, 1950, by Miller Freeman Publications.





...then there was the day that

## the postman brought us \$20,000!

It wasn't in the form of green-backs or a check but it was worth at least \$20,000 a year to us. The day it arrived it began putting that amount of money in the bank for us. It was just a little booklet that showed us how we were blowing hundreds of dollars a day up through the stacks on our mill. A check-up from our own costs proved it was so and we took action—but quick—that day. We placed an order for a Briner Economizer to

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the Union Pacific shield—the railroad's trademark—is a shining symbol of a transportation service which has been constantly improved throughout a period of more than eighty years.

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more than just selling quality storches,
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in actual use.

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At any time... your nearest STEIN-HALL man can be counted on for prompt, thorough attention.

STARCHES, DEXTRINES AND GUMS for the Paper Industry LABORATORY-CONTROLLED FOR QUALITY AND UNIFORMITY



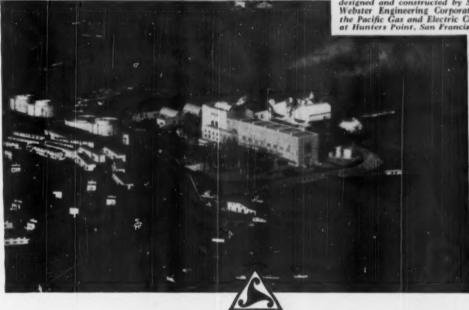




The Kern Steam Plant and the extension to Station P of the Pacific Gas and Electric Company represent the finest examples in the country of centralized control in steam power stations.

The Kern Steam Plant, with an installed rated capacity of 173,000 kw, recently completed for the Pacific Gas and Electric Company in Kern County, about 300 miles south of San Francisco in the San Joaquin Valley.

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## WHAT DO TREES HAVE TO DO WITH TEXTILES





Our forest proporties are kept continuously productive under for-sighted man agement policies.



In our four milts, a number of types of highly purified celluless are produced by chemically processing wood. More than eighty per cent of all viscose rayon and acetate yarns produced in this country are made from highly purified cellulose derived from trees.

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Rayonier does not manufacture yarms or finished textile products; but for nearly twenty years the domestic textile industry has looked to our mills as a source of supply for the highly purified wood cellulose needed to produce fibers and yarns. Today, nearly half of this industry's wood cellulose requirements are being met by the Rayonier organization.

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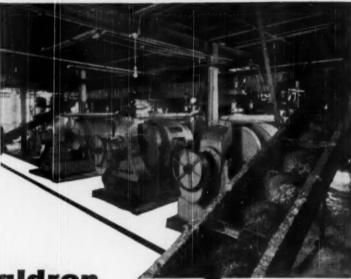
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ENGINEERS AND MANUFACTURERS HOLYOKE, MASS.

LARGEST MANUFACTURERS OF CALENDER ROLLS IN THE WORLD

Mills that compare Refiners choose

Sprout-Waldron



The MAIZEWOOD Installation A bettery of S/W Refiners and stock conveyors recently installed at the Maizewood Insulation Co., Dubuque, In.



S/W Refiners do a wide variety of jobs-all of them thoroughly and economically. Here are some applica-cations; refining kraft, soda, and sulphite knotter and fine screen rejects; hagged bull screen rejects; knotter and second screen rejects of raw groundwood; somi-chemical chips of all kinds; spent chips after extraction process; bogasse, strew, and similar grasses; breaking down lumps in reclaimed waste paper stock; reduction and refining of rag and other half stocks, etc., etc.

When all the pros and cons are weighed about pulp refiners, your choice will be Sprout-Waldron. Here is a high quality refiner that does more at less cost. A humdinger in any type of pulping, it far outperforms similar equipment in semi-chemical operations.

Its rugged construction, precision engineered, includes the unique peripheral control ring feature. This provides great flexibility of adjustment, enabling you to produce a wide variety of pulp characteristics. With the Sprout-Waldron you can pinpoint exact pulp requirements. Long-life plates are available in many styles ... are easily changed and inexpensive.

> Your initial investment in a S/W Refiner is comparatively low. High production rates, economy in power consumption, ease of operation, adjustment, and maintenance, mean additional savings.

Let a Sprout, Waldron representative explain how these refiners can step up your output and cut operating costs, or ask for Bulletin R-748. Address Sprout, Waldron & Co., Inc., 32 Waldron Street, Muncy, Penna,

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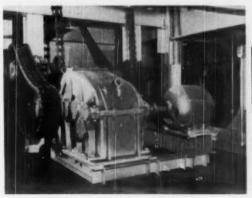
## ANOTHER NEW MILL SELECTS PACIFIC-WESTERN

Pacific-Western speed reducers are shown in use on the General Electric sectional drive for the Black-Clawson paperboard machine at the new mill of Fibreboard Products, Inc., East Antioch, California. In the foreground a 50 h.p. motor is driving the first press through a Pacific-Western D-56 speed reducer with a reduction ratio of 15.5 to 1. Next two presses are driven by 20 h.p. motors through Pacific-Western D-52 speed reducers with the same reduction ratio. Eight other Pacific-Western speed reducers are also used in driving dryers, calenders, reel and cutter on the same m schine. The Pusey and Jones paperboard machine is similarly driven by Pacific-Western reducers.

WHEN FIBREBOARD PRODUCTS, INC. recently constructed a new, multi-million dollar bleached kraft and nine point mill at East Antioch, California, skilled Pacific-Western application engineers were called in to provide the driving units. Efficient, precision-made Pacific-Western speed reducers were recommended for service on many operations throughout this mill, the only wood pulp mill in California.

More than fifty years of sound gearmaking experience are back of Pacific-Western's knowledge of the paper industry. For large mills and for smaller operations, Pacific-Western experts are ready to give your power transmission requirements immediate attention. Specify Pacific-Western and be sure.

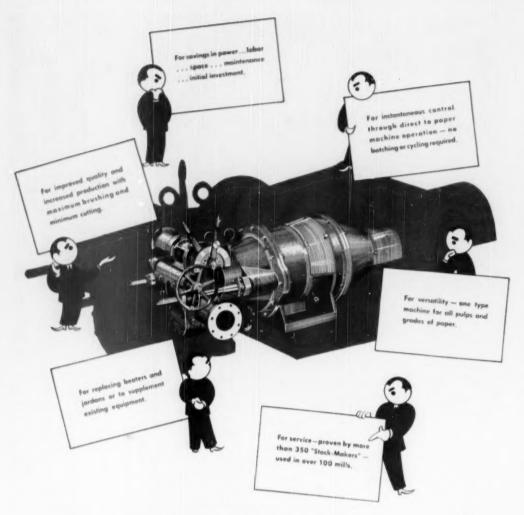
The Pacific-Western DT-58 triple reduction speed reducer pictured below drives a log transfer section in the wood room. Carefully engineered for the various applications, Pacific-Western speed reducers are used on practically all power driven equipment in the plant.







4974



## Any way you look at it!

The Morden "Stock-Maker" is superior for Beating and Refining 3000

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Pulp and paper mills interested in efficient operation and low overall costs find that Link-Belt chains and sprockets for drives and conveyors give them these qualities in extra measure. From the various Link-Belt types, with numerous variations as to size and attachments, can be supplied a chain precisely suited to each application. Link-Belt's long experience and unmatched facilities assure you superior performance and long life on any installation.

Consult Link-Belt on conveying, materials handling and power transmission problems.

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CHAINS AND SPROCKETS

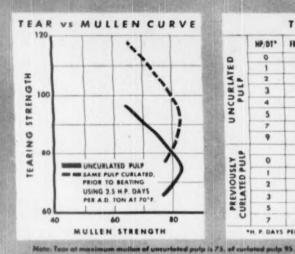
for conveyors · for drives · for power transmission

drautic barker on multiple strands of Class H malleable pintle chain.

Nine strands of Class C combination chain of malleable traand steel, form this serting conveyor taking legs from barking drums to chipper, or to groundwood log storage on upper floor.

## **Curlators Are Proving** Their Value

Effect of Curlation prior to beating on the tear-mullen relationship during beating of a previously undried northern unbleached sulphite pulp.



UNCURTATED	HP/DT*	FREENESS	MULLEN	TEAR	DENSO-
	0	840	66.8	93	13
	1	810	77.6	83	34
	2	764	80.8	77	95
	3	672	84.0	75	260
	4	615	81.5	74	580
	5	521	70.8	60	1330
	7	394	66.5	55	3750
	9	285	64.6	54	5660
CURLATED PULP	0	836	66.2	117	3
	1	770	82.8	95	22
	2	688	80.2	81	125
	3	575	76.8	72	360
	5	390	71.7	67	2640
	7	270	55.0	48	8280

Description of testing precedures employed by the Curinter Corporation Laboration

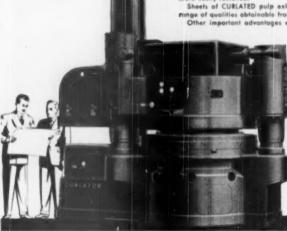
CURLATION is a new mechanical process for improving pulp properties, fully tested and thoroughly proved. Curlation not only produces a permanent change in the shape of pulp fibres, but also exerts a powerful de-shiving action, with negligible change in freeness.

The effects obtainable with CURLATION vary widely with the raw material and the conditions of

treatment. In general, CURLATION tends to produce an easier beating pulp from which water is

Sheets of CURLATED pulp exhibit a more even textured matte appearance. In addition, the inge of qualities obtainable from a given pulp is broadened. Other important advantages exist . . . WRITE for new bulletin C-2 on the C-50 CURLATOR.

The CURLATOR is a tool for altering the properties of pulp and paper to obtain qualities hitherto unavailable by mechanical meons. The effects of CURLATION vary with the raw material and may be described only in relation to a particular pulp.



CURLATOR. Corporation SES BLOSSOM ROAD - ROCHESTER 10, NEW YORK

+T. M. Reg.—Curlator Corporation, Rochester, N. Y.

## ON NO.3 MACHINE AT

For a Complete Speed Range of 1200 FPM down to 250 FPM



and HEADBOX by

VALLEY

VALLEY IRON WORKS CO.

Appleton, Wisconsin

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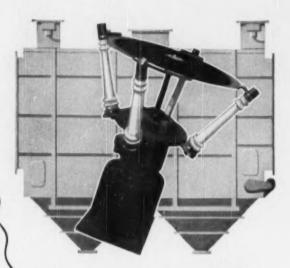
LEVEL SHEET

**INCREASED SPEED** 

HIGHER TEST







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The advent of the Buell 'SF' Electric Precipitator breathes new life into precipitator design. High efficiency recovery of ultra-fine dusts, fumes and vapors takes on new operating ease and reliability.

Both management and plant engineers will find in the Buell 'SF' Precipitator sound reason to anticipate superior performance. Advanced design provides self-tensioned Spiralectrodes (patented), and incorporates an exclusive StediFlow dust-fall principle. Either as Precipitator alone, or in combination with Buell van Tongeren cyclones, there is definite operating advantage.

Like all Buell Dust Collection Systems, each 'SF' Precipitator installation is custom-engineered for the job it will do...backed by a realistic fractional efficiency guarantee...produced against a background of world experience in dust collection.

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Engineered Efficiency in



## do you need a blue that

- · yields non-two-sided sheets'
- develops rapidly in beater
- may be used in chest corrections
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- · has good finctorial strength
- · may be acided dry without showing color specks

May we send you a sample of the paper bles that meets all these

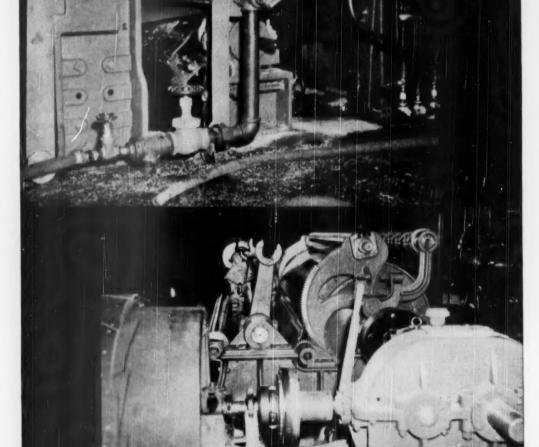
specifications - a blue especially developed for fine papers.

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A reproduction of this incident from the fabulous life of Paul Bunyon—the fifty-third of a series—will be sent on request, it will contain no advertising.



#### G. T. Features For Easier, Lower-Cost Slitting

Gears Eliminated, resulting in greatly reduced upkeep and almost complete silence. V-belts replaceable without dismantling. Rotating members, except mill roll shaft, mounted on sealed anti-friction bearings.

Motor Drive sold as package, including M. G. set, Main motor and mill roll brake on right of machine. Kidder engineers will recommend motors of correct capacity.

Shear-Action Cutting severs web. Shaft-mounted, two-edged back cutters, 34" wide, are driven slightly faster than the web. Ball-bearing front cutters, rotating by pressure against back cutters, are kept sharp by latter's harder metal.

Slit Webs Are Wound either on core or on a collapsible shaft, in cradle formed by two drums, under pressure from a third above. The two drums are driven by main motor; top roll is driven by a rheostat-controlled auxiliary motor.

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Bow Bar helps smooth out wrinkles and handle baggy stock. Bar, adjustable as to angle, can press on web's center or edges, combining with the mill roll's bias adjustment to keep web straight and taut.

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1. Clean, Accurate

- Cutting
  2. High Speed, Dust-
- less Operation
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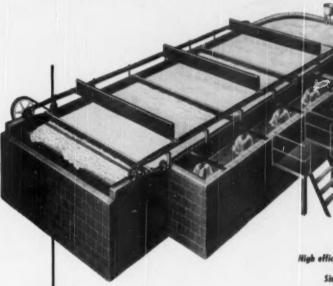
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Clarifies water to such an extent that effluent contains less than two-tenths of a pound of filterable solids per 1,000 gallons.



One of the outlet tube discharges



#### OTHER ADVANTAGES:

Rapid return of recovered fibers.

Clarified water usable in many places.

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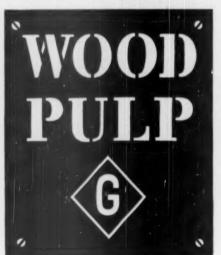
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Impressive as the development of Pulp and Paper has been, new horizons of achievement stretch unending before the industry.

Initiative and ingenuity will continue to be dominant factors in expanding the American economy with wood pulp always playing a vital role.

Our own background of 64 years' association with the industry can be a valuable guide to old friends and new.

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#### Let's Give Credit Where Due

Not so long ago a couple of representatives of the U. S. Army Quartermasters Corps addressed a TAPPI sectional meeting in the Legion clubhouse at Appleton, Wis., a familiar setting for association meetings of this industry in that very important paper city.

They made the headlines of the Appleton paper by "speaking frankly"—to quote their own words—and by issuing such statements as these:

"The paper industry shouldn't expect to get the taxpayers' money for nothing . . . we haven't seen a bit of improvement in paper since the war . . . etc."

"Top sergeant talk" is sort of expected from our army friends, and there is no doubt they were putting on a bit of a show. It would be unfair to them to intimate their whole talk was in this vein. They told of the headaches that face the army in its packaging problems and of such new developments (though they had said there were none) as safe impregnation of insect repellent in outer layers of food packages; a "breather" package that lets moisture escape, yet prevents water entering, for soaps, etc., and a flexible vacuum foil pack for dehydrated meats.

Speaking frankly ourselves, we would suggest their critical statements were too sweeping. There is no good reason why the paper industry can't produce papers which would meet reasonable government requirements. And, contrary to their claim, there have been a number of improvements since the war.

The paper mills, just as soon as was possible after restrictions were lifted, increased the sizing of papers, increased their functional basis weight, increased their brightness, made available more colors, and became more receptive to versatility.

Research facilities have been greatly enlarged in all of the progressive companies and every effort is being made to improve existing products and develop new ones.

New wet strength papers are now available for toweling, bags, crate liner for iced vegetables, and others where such products were unknown a few years ago. Paper containers for milk and sanitary hoods for glass bottles have been greatly increased and improved. Special papers have been made for the frozen food industry and for use in home freezers.

If we really got down to cases and made a survey of the industry, there probably would be a large number of specific examples that would serve to further illustrate this point.

Whenever the government has gone to industry with a specific request, it has generally been presented with a solution to the problem. Of course, if the army wants the mills to make Sherman Tanks out of paper they might be somewhat discouraging and recommend that it contact the steel industry.

#### **Canada Deserves Better Treatment**

What useful purpose is being served by the Congressional investigation of an alleged monopoly in newsprint, or monopoly prac-

tices? Of course, the industry is almost wholly in Canada. Very little of it is left in the United States since being driven from this country by just such tactics, which brought about removal of tariffs long ago. The Congress, of course, has no authority over Canadian mills. But further than this, the slanderous attacks that come forth in the train of such investigations, headlines about so-called "curtailed production" and "artificial scarcities," etc., are not doing any good to the relations and understanding between the world's two closest and most friendly of all nations. How could they? And, at a time when we should be most active in trying to make these relations even closer.

The Canadian newsprint industry is one of the world's great industries—it supplies many nations with the stuff for their press, free and otherwise, and it just happens that currently this country is by far the biggest customer. But newsprint consumption will increase in all nations, including many that are now backward ones, and Canada is not necessarily beholden to any nation that repeatedly ad unjustifiably attacks its greatest industry in the press and in Congress. The facts, as carried in our current North American Review Number, about Canadian production for American markets show that curtailment charges are unfounded.

While Canada's newsprint mills have worked wonders in speeding up their newsprint machines, increasing their output, it is interesting to note that of the nine new mills which have been built or reconstructed in Canada since the war, not a single one of them is a newsprint producer. The only complete newsprint mill in the United States in a decade is in the South, where the attitude is quite different and more encouraging to the manufacture of this product.

Is it any wonder that investors and promoters have steered clear of a field of production which has so many unpleasant political complications and is subject to so much unfair and unjustified publicity? The U. S. press as well as the U. S. Congress is responsible for this situation.

#### IN THIS ISSUE -

#### N. Y. & PENN'S LOCK HAVEN MILL ST. JOE PAPER CO. at PORT ST. JOE

ST. JOE PAPER CO. at PORT S	T. JOE
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#### NEWS IN BRIEF AND BULLETINS

Further Expansion to be Studied in Idaho

New kraft pulp and paper mill being rushed to completion by December at Lewiston, Ida., by Potlatch Forests, Inc., "may well be start of a paper empire" in heavily-wooded Idaho---"we look on it as a 'pilot mill' to see if our estimates of possibilities are correct," William P. Davis, PFI president, told Lewiston C. of C. Mill is based on use of waste from lumber-plywood plants, and certain species wood from forests. Test cooks, he said, indicate they can make fine paper grades. Institute of Paper Chemistry survey shows "a mill twice this size could be put up without harmful effect on streams."

**Industry Studies Tariff Reduction Plans** 

Segments of this industry are studying minutes of public tariff reduction hearings before Reciprocity Committee of State Department at Washington May 24. Principal categories to be affected a year from now (12 months are required to feel first effects of a tariff cut plus devaluation) include groundwood printing papers, book grades, tissue, drawing paper, converted products. Rates vary on these but proposed reduction was (with devalued currency) about 50 percent. Most concerned at third round on a broad list were the non-integrated mills with thin net earnings as percent of sales -only 3.1 percent in the third quarter of last year, for example, as against 10.9 percent for integrated mills. Pulp consumers advanced argument successful State Department program means not only more paper, but less imported pulp. Between consumer mills on the one hand, and the big pulp producers little opinion was expressed although industry as a whole (through APPA) is vigorously opposed.

Wage Boost in East Canada and New York

AFL unions officially report a 7 cent increase in fine paper mill wage rates in East Canada; a 5 percent increase in Ontario kraft and newsprint mills and a 5 cent increase in northern St. Regis Paper Co. mills, as a result of some of main spring wage negotiations, and they are described as among largest boosts in "real earnings" for mill workers in 20 years. Negotiations with Canadian International Paper Co. resulted in a 5 percent general increase and third week of vacation after 15 years. The St. Regis increase set base rate in those mills in Northern New York at \$1.16 per hour, means \$300,000 increase in payroll.

**Newsprint Record at Port Angeles** 

The Port Angeles, Wash., newsprint mill of Crown Zellerbach Corp., sets new high speed record for 29 years operation-recently reaching a day's average of 1,535 feet per minute on No. 2-164 inch machine. Ray Schadt is resident manager; Tom Hargreaves, assistant manager; Claude B. Kelley, general superintendent, with 29 years newsprint making behind him, mostly at Ocean Falls, B. C. Speedup achieved through gradual improvements of all kinds over recent years, including addition of Nash vacuum pumps, water pumps, new second Beloit suction press-also other two news machines.

Appleton Will Try Waste Liquor Road Surface

Use of sulfite black liquor effluent for designated Appleton, Wis., city streets as dust layer and soil stabilizer is planned through cooperation of Sulfite Pulp Manufacturers' Research League. It will come from Consolidated's Interlake mill in Appleton. This is an old idea for disposal-used many places-weakness of plan is it doesn't usually make use of enough liquor. Good results on making roads semi-permanent has been reported from Park Falls, Wis., where Flambeau mill's liquor has been used.

John Inglis Builds India Mill

John Inglis Co., Ltd., Toronto, Ont., now owned by English Electric Co., of Britain, is preparing plans and building equipment for bleached sulfate pulp and paper mill for India, utilizing bamboo and cooked cotton rags for raw materials, for manufacture of high grade writing, printing and wrapping grades. Mill will be self-contained, have initial daily capacity of 25 long tons of paper daily. Machine will have Fourdrinier wire 134 inches wide. Indian company known as Ballarpur Paper & Straw Board Mills, Ltd., head offices at Nagpur, C. P., India. Inglis is licensed by Pusey & Jones Corp., Wilmington, Del.

Colorado Mill Plan Developments

Morris Mitchell, prominent newsprint engineer of 807 Riverside Drive, New York City, told PULP & PAPER the fact that he had done considerable preliminary and survey work for Columbia Development Co., which recently purchased Forest Service timber for Colorado newsprint mill. He said this work has now been terminated to satisfaction of both parties and he had not been called for further work. Ebasco Services, Inc., 2 Rector Street, New York, will carry on construction phase. Reports were strong that Columbine interests might need to hook up with one or more organizations, probably already in the paper or board field, in addition to Rocky Mountain newspapers. in order to make available minimum of \$10,000,000 drawing account for plant construction required by Forest Service.

### DO YOU RECOGNIZE HIM?



Here he is when he played for the famous old Knickerbocker Hockey Club of New York City. He learned the game as a boy in Ontario. He went on to fame as a star defense man on the New York Americans of the major league of all hockey-playing in world's championship series. This was back in the Golden Age of Sports in the mid '20's when Tex Rickard introduced professional ice hockey as one of the feature attractions in the newly built uptown Madison Square Garden, and on hockey nights, our friend above sturdily defended the New York goal or wildly chased the puck for packed audiences of nearly 20,000 screaming fans.

Today he is one of the best known "affiliates" of this industry in the Middle West-representing prominent supply companies. He lives in a country town in Illinois and one of his personal prized possessions is a power lawnmower which he rides in a driver's seat. See page 84 for a picture of him as he looks todayand your answer. But try guessing before

you turn the page.

J. F. MIXSON, formerly manager of International Paper Co.'s Southern Kraft Div. mill at Moss Point, Miss., has been named manager of the Springhill, La., plant to succeed Ike East, who has become manager of the new Natchez, Miss., mill.

#### **Benjamin Heads Australians**

L. R. Benjamin, general superintendent of Australian Newsprint Mills, Ltd., at Boyer, Tas-mania, and one of the pioneers of the industry in Australia, is the new president of the Australian Pulp and Paper Industry Technical

Mr. Benjamin, who has visited this continent several times in recent years to purchase equipment, and spent some time in Europe a year ago, succeeds H. E. Dadswell.

## **NEW SOUTHERN MILL PLANS**

Completion of a survey covering the construction of a 50,000-ton annual capacity newsprint mill has been effected by Merritt-Chapman & Scott Corp., New York general contracting firm, for White Star Paper Co. The site for the mill will be on a 475-acre tract of land a few miles from Prescott, Ark., on the little Missouri river.

While the forest resources of the paper company are ample to sustain a fourmachine mill, it is understood that initially the plant will have but one machine and a pulp mill.

This will make the third newsprint mill in the South, the others being the Southland Paper Mill, Lufkin, Texas, with two machines; and the Coosa River Newsprint Co., Coosa Pines, Ala., with two machines.

The Arkansas mill is not a promotion



of Southern Newspaper Publishers' Association, which organization played an active, important part in the first two newsprint producers. The Prescott mill is backed by lumber companies.



The White Star Paper Co. was incorporated under the laws of Delaware on Nov. 7, 1949, and its registration effected to do business in Arkansas on Jan. 12, 1950. James R. Bemis (see picture) president and general manager of Ozan Lumber Co.

Prescott, Ark., was named as agent. Mr. Bemis will serve as president of the paper company.

DeVere Dierks, vice president of Dierks Lumber & Coal Co., Kansas City, Mo., is vice president of the paper company. Francis McD. Dierks, secretary-treasurer of the Kansas City company is secretary of the new enterprise. The charter of the corporation is quite broad, starting with authority to manufacture, process or otherwise produce, buy, acquire, sell or dispose of pulp, paper and paper products.

Capitalization of the company is set at 20,000 shares of common stock of \$10.00 per value each. Stockholders have no pre-emption rights to subscribe to any or all additional stock issues.

The Dierks Lumber & Coal Co. has its headquarters in the Dierks building, 1006 Grand Ave., Kansas City. It operates sawmills at Forester, Mountain Pine, and Dierks, Ark., and one at Wright City, Okla., having a combined capacity of 510M feet B.M. daily. Of its forest land holdings, in Arkansas alone the company has 652,000 acres qualified as "Tree Farm." Frederick H. Dierks is company president.

The Ozan Lumber Co. has its headquarters at Prescott, Ark., where it operates a 55M feet B.M. per day sawmill. It also operates a sawmill of 85M feet per day capacity at Delight, Ark., not far distant. This company's land holdings include about 90,000 acres of "Tree Farm" qualified forest. D. K. Bemis, brother of James R. Bemis, is vice president; Norman Whitaker is vice president; and Hubert Whitaker is secretary-sales manager.

The Gurdon Lumber Co., Gurdon, Ark., not far distant from Prescott, is also interested in the paper company. It operates a 35M foot daily capacity sawmill at Gurdon and one of 50M foot daily capacity at Bierne, Ark. H. C. Cabe is general manager. Its forest land holdings include 60,000 acres of "Tree Farm."

### VETERAN BOSS MACHINETENDER

One of the real veterans among the paper-making fraternity of the Pacific Northwest is Ray Gribble (shown at right with backdrop of Powell River Co. machines). He joined Powell River in 1932 when the mill was just getting nicely into production. Ray has

been with Powell River ever since and now ranks No. 3 in point of service on the company's payroll. He has seen the mill grow from modest beginnings until today it is among the world's biggest producers of newsprint. He is boss machine tender of Nos. 1 to 4 machines.

Nebraska-born, Ray Gribble went to school at Beaver City and at 16 went west to join Willamette Pulp & Paper Co. in



Oregon City. That is where he gained a pretty thorough basic training in paper-making, for he rose from chore boy to machine tender in a little more than five years. When he heard about the new mill built at Powell River, the idea of going there appealed to him. For 38 years he has been with Powell River continuously. He has watched six of the company's paper machines roll into produc-

#### Meeting in Philadelphia On Mill Maintenance

Paper mill maintenance was the subject of a panel discussion on May 25th, at the Engineers' Club on Spruce Street in Philadelphia. Moderator was Harry C. Merritt, vice president and chief engineer of Downingtown Manufacturing Co. His performers were of the best: H. F. Winchell, staff engineering department of Scott Paper Co., Chester, Pa.; N. R. Rohrbaugh, plant engineer, P. H. Glatfelter Co., Spring Grove; C. M. (Mike) Connor, W. C. Hamilton and Sons, Miguon, Pa.; and C. F. King, Westinghouse Electric. Frank J. Lovegren, now chief chemist with W. C. Hamilton and Sons, well known on both coasts, is secretary of the active Delaware Valley section.

tion: Nos. 3 and 4 in 1913, Nos. 5 and 6 in 1927. He was there when No. 7, and finally, last year, No. 8, turned over for the first time.

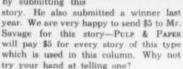
All over the continent, wherever paper is made, there are younger papermakers who share happy memories of the days they spent at Powell River under the friendly direction and tutelage of Ray Gribble. He has always been regarded as a good man to work for.



In this corner each month PULP & PAPER publishes the tallest tales it can gather from papermakers or pulpmakers the world over. We've had some good

ones this past year—but none better than this one about what happened at a certain mill during an unusual cold spell.

Jack V. Savage (right), sulfite superintendent, Crown Zellerbach Corp. Camas, Wash., has rung the bell again, by submitting this



Here's Mr. Savage's story:

#### Mr. Savage's Story

This is the story of an occurrence at our mill during the zero weather period last winter that surpasses the fabrications of the imagination.

It all started when the shipping department was unable to find an order they were supposed to ship. The space in the warehouse where the paper was reported to be stored was occupied with nothing more than a few wheelbarrow loads of wooden counter roll plugs. After two days of interdepartmental squabbling the story was pieced together.

The icicles got so big on the dam up the river that they were mistaken for a broken log raft when they started to drift past the mill. The tug boat crew. not wanting to get behind the eight ball for losing a raft, promptly corraled the icicles and towed them into the wood mill. The logs had been so heavily coated with ice for the past week that the wood mill crew didn't know the difference and went ahead and chipped them up. Well. to make a long story short, the ice chips went right on into the digesters. Due to an unusual train of events the error was not noticed there.

A battery of new high density chests had not yet been covered by a roof. The belt used to fill the chests was kept running to keep it from freezing in the conveyor trough. This condition had caused all the bleach storage tanks to be filled with snow. The foreman, believing that he had everything full, had not looked in the blow pits.

As near as we have been able to figure it out, the paper machine crew mistook the snow for bleached pulp and ran out the order in question on this furnish.

As the order was for plug rolls, the order was apparently made and stored in the correct space in the warehouse as indicated by the pile of wood plugs left there after the paper made from snow had melted away.

An interesting but irrelevant sidelight to this unusual train of events came to our attention about a week later.

Two of the backtenders had been off work for some time due to an affliction which had baffled the local medics. It became apparent that the affliction must have been frost bite caused by the time honored practice of backtenders to feel of the roll for wrinkles as it is reeling up on the dry end of the machine. Both men had been absent from work dating back to the day the paper in question was made.

#### Lull Goes to Pacific Coast For American Cyanamid



Industrial Chemicals Division of American Cyanamid Co. announces appointment of Robert W. Lull as West Coast salesservice engineer for the company's Paper Chemicals Department. He will work with Ed. Garrison, Paul Ochs and Herb Pratt, West Coast sales repre-

sentatives in Seattle, San Francisco and Los Angeles, respectively.

Mr. Lull will be located in Portland, Ore., and will assist mills in application of chemicals made by Cyanamid. These include Accobrite rosin sizes, Alwax and Waxine sizes, Parez resins, Casein, Clays, Sulfate of Alumina, Sodium Phospho Aluminate, and others.

Mr. Lull received his science degree in chemical engineering from Newark College of Engineering. He was employed five years by Hammersley Mfg. Co. of Garfield, N. J., prior to joining Cyanamid, and has spent a year in the company's Stamford Research Laboratories working on paper chemicals. During the war he was a lieutenant, Army medical administrative corps.

#### Dave Harris Becomes Moore & Co. Seattle Mgr.



David W. Harris (left), who joined the company 15 years ago as an ironworker's helper, was promoted to the managership of the Seattle office of C. C. Moore & Co., Engineers, as of May 1, according to announcement by H. H. Smith, president, San Francisco.

Mr. Harris succeeded Charles A. Hulsart, who has retired after ten years as Seattle manager, following about 30 years with Babcock & Wilcox Co. As this was published, Mr. Hulsart was considering moving to California from his Seattle residence.

The C. C. Moore firm represents Cochrane Corp., Babcock & Wilcox. Detroit Stoker Co. and other power plant equipment manufacturers, and has engineered and installed many of these processes in Pacific Coast pulp and paper mills. It has been very active in the Pacific Northwest, especially lately in connection with the pioneering of the magnesia base sulfite recovery system at Weyerhaeuser's Longview mill, with which Mr. Harris and J. F. Grieve, of Portland, Ore., Moore & Co.'s commercial vice president in the Northwest, have been closely identified.

Mr. Harris was born in Granger, Wash., was graduated from Washington State College in mechanical engineering in 1934 and the next year began his career up the ladder in the C. C. Moore organization.

Pacific Coast industry engineers will recall he gave an interesting technical paper on the combined firing of coal and wood at a TAPPI meeting in Bellingham, Wash., of Coast industry engineers over a year ago.

### New Mill Offices, Laboratories For Appleton Coated Paper Co.

Mill offices, laboratories and locker and shower rooms will be contained in a 2-story high, 36x72-ft., \$60,000 steel, concrete and brick facing building to be constructed at the Appleton Coated Paper Co. in Appleton, Wis., it is announced by R. W. Mahony, general manager. Robert M. Connelly of Appleton designed it.

The new structure will be on the Meade Street side of the mill, adjacent to the color room. Present laboratories and mill office will be used for storage of fine papers.

In the basement will be lockers and showers; a mill office, superintendents' office, and conference room will be on the first floor and laboratories on the second.



GENERAL LUCIUS D. CLAY (above), formerly commander of U. S. forces in Europe and military governor of the U. S. Zone, has been elected Chairman of the Board and Chief Executive Officer of Continental Con Co., Inc., New York. He replaces Carle C. Conway, who has resigned after having served as Chairman since 1930. He was President of Ecuata Paper Corp. for a short while lost fall, but when Ecusta was purchased by Olin Industries, he resigned.



ALEXANDER CALDER, JR., Vice President of Union Bag & Paper Cerp., of New York, was principal speaker at a Union Bag Athletic Assn. meeting in Suvannoh, and is shown here congretulating Walter Franklin, President of the organization, and a pipe-fitter in the Maintenance Dept.





R. J. JACOBS (left) and L. E. DeWeese (right) have become Field Representatives for Diffs Division of Black-Clawron Ce. to handle Diffs converting equipment and Kohler paper-winding equipment, respectively. Mr. Jacobs, graduate of the Callage of the City of New York, served with Goodyear Aircreft, Mercury Engineering, and was two years a consultant in Madison, Wis. Mr. DeWeese was Vice President of the Kahler System Ce. at the time of its purchase by Black-Clawron. An air force major, graduate of Sheffield School, Yale, he was with Geo. H. Mead Co., Dayton O., for 14 years.



 D. WELLS (left), premoted to Mill Manager of the Houston Division (for Posodene, Taxes) of Chempion Paper & Fibre Co. He had served as Machonical and Power Supt., was succeeded in that position by Frank Ahrons. Dick Bets was promoted to Asst. Gen. Supt. of Paper Mill.

by Frank Ahrens. Dick Bets was promoted to Asst. Resident Mgr. of Paper Mill.

GEORGE A. HOLT (right), promoted to Asst. Resident Mgr. and General Supt., Rayenier, Inc., Grayst Horber Div., Nequians, Wash., as amounted by Ed Bartsch, President Mr. Helt, graduate in forestry of U. of Washington, joined Rayenier at Sholton, Wash., and was Supt. there and at Hoquiam.



SALES AND SERVICE FACILITIES OF BLACK-CLAW-SON CO.'S, SHARTLE BROS. CO. AND DILTS MACHINE WORKS on the Pacific Coast have been expanded with increased technical personnel in the Western office at Partland, Dre. GORDON PETRIE (right), both Sales Engineers. R. T. has been with the argunization since 1939. Gordon, graduate of Oregon Stele College in electrical engineering, werhad in Black-Clawson main office, Hamilton, O., for two years after experience in Languiver Fibre and Pugel Sound Pulp & Timber Ce. mills. Gordon's brother, Ross, also a graduate of O.S.C., is employed at Crown Zellerbuch Corp., Comon, Weeh.





IAMES MOYNIHAN (left), ex-Groundwised Suptat Bowcier's in Newfoundland, has become Groundwood Supt. of new Cossa Biver Newsprint Co., Cossa Pines, Ale. This picture taken by PULP & PAPER at Corner Brook, Nid., year age. Born in Croton-on-Hudson, N. Y., he worked 15 years at Finch, Pruyn Ce., then mills in Maine and started up Seuthkand's groundwood mill at Lufkin, Taxas. THOMAS M. BARRY (right), promoted to Monoger of the Northern Mills of Hollingsworth & Whitney Ce., with hoedquestras at Waterville, Max, effective Aug. 1. He recently left Fraser's Madrivershu, Monill to be Asst. Monoger of H. & W. Northern Mills He succeeds Robert Nivisen, Vice President, who moves to Beaton hoodquerters as top official in residence and mills.





RICMARD H. OLSON (left) former Vice Pres. in charge of sales, has been elected President of Electric Machinery Mfg. Ca., Minosapolis, succeeding Walter H. Feldmann, who resigned to Income Vice President in charge of sales of Worthington Pulp & Machinery Carp., Harrison, N. J., EM's parent firm. IRA L. SAWYER (right), appointed field Research Director of Wastfield River Paper Ca., Russell, Mass., and its subsidiary. The Glassine Paper Ca., West Conshahecken, Pa., as amoaursed by R. L. Coin, General Sales Manager. Mr. Sewyer tales this new past offer 21 years with Paterson Parchment Paper Ca., of Bristol. Pa.

PERSONNEL GROUP photo recently taken at Columbia Cellulose Co. sulfite mill (Calanese Corp. of America) under construction at Watson Island, B.C. (I. to r.) C. H. KLOTZ, Project Engineer; E. R. BARR, Monager of the Columbia Cellulose Prince Rupert office, MARGURETTE LOGAN, Secretary of D. G. STEMSTROM, Wast Caust Bay-resentative, Columbia Cellulose Ca.; S. B. ROBERTS, Chief Engineer, Celanese Corp. of America, New York.



## N. Y. & PENN'S STORY

## COATED PAPER MILL EXPANDS

Where the Susquehanna turns northwest lies the town of Lock Haven and there the New York & Pennsylvania Co. has spent millions of dollars over the years in continuous improvements to the organization established in 1890.

While improvements have taken place at all mills in recent years, this article is concerned with the more recent expansion at Lock Haven, the latest phase of which began shortly after World War II.

The Lock Haven set-up includes the sods pulp mill, the Castanes unit with four 156-inch Fourdriniers, and the Lock Haven mill with 92-inch, 110-inch, two 152-inch, 154-inch and 166-inch machines.

In general, improvements at Lock Haven include a modern storage and pulp handling building with unusual equipment, a completely new pulp preparation system, a new coating materials handling system, and a new Beloit machine (one of the most modern with on-themachine coating) which has been named for the late Charles P. Putnam, who died suddenly last year. He was manager of New York & Penn's engineering department. The tribute is a fitting one, for all hands in the organization give Mr. Putnam complete credit for the unusually successful engineering and design of the Lock Haven improvements.

#### Storage and Hydrapulping

The modernization at Lock Haven starts with the new 165 by 400 ft. steel pulp storage and handling building. The larger part of this building is devoted to pulp storage with monorail system and two railroad tracks into the building. At one

end of the building are installed the four 15,000 gal. water tanks which start off the Hydrapulping system, their complete valve and pumping equipment beneath. Parallel to the storage space is the Hydrapulping department in which are installed two 20 ft. Shartle-Dilts Hydrapulpers, one for soda and the other for sulfite pulp. A three-track Louden monorail installation underneath the slab-concrete ceiling is the heart of the materials handling system here.

The ingenious design allows pulp to be taken to Hydrapulpers either from the storage warehouse or direct from rail cars. It is loaded onto steel trays set into pits in the concrete floor. These trays are then handled by the monorall and tipped into the Hydrapulpers which are controlled by a panel and control post developed by New York & Penn. All of them have Howe scales with electric visual reading. There is room for an additional Hydrapulper at some future date.

Each water tank serving them holds a charge for one Hydrapulping and each pair of the four tanks is connected with a four-way American Car & Foundry valve with Hanna air-operated plug cocks. After Hydrapulping, the stock goes into a chest built by Stebbins. The next step is comprised of eleven Stebbins storage tanks as follows: Three tanks for 4½ per cent soda storage, two for 4½ per cent sulfite storage, three for 3½ per cent sulfite dilution and storage, three for 3½ per cent soda dilution and storage, all Stebbins built. After defibering, the stock is pumped overhead and bridged to the pulp preparation building a distance of

about 300 feet. The pumping equipment is by Warren and driven by Reliance motors.

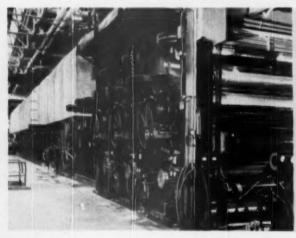
A large number of Warren pumps have been installed in the mill from the start of the present expansion right down to the first of this year, including pumps from hydrapulper to chest and agitation, soda and sulfite storage, broke to blending tank and several others in the stock preparation line, which are only a small part of more than 50 pumps installed at Lock Haven by this one company in the past four years.

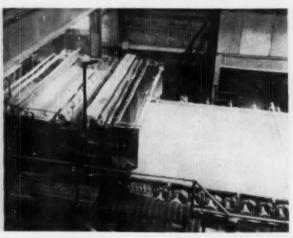
#### **Pulp Preparation**

The pulp preparation layout at Lock Haven is one of the most modern, capable of handling 13 tons an hour. Completely automatic, it is controlled in actuality from the modern control room where a giant Brown panel indicates, to the only employe necessary on this floor, the levels and flow in all tanks described above and in white water storage tanks, filler clay storage tanks, machine chests, carbonate filler tanks, old paper control tanks, broke chests and broke checking and storage tanks and the white water supply tank.

It is interesting to note that the space between the tanks is utilized as dilution water storage. The stock is diluted to  $3\frac{1}{2}$  per cent following the four E. D. Jones standard refiners which are filled with 3/16 inch stainless steel bars. The refining operation is continuous but the dilution from  $4\frac{1}{2}$  per cent A. D. to  $3\frac{1}{2}$  per cent A. D. is completely automatic on a batchwise basis. This is accomplished

MACHINE VIEWS AT LOCK HAVEN: Left-View along front side of paper machine, coating sections and process stack sections. Right-Circulating headbox and Fourdriniar section of new machine.





200% RETURN ON THEIR INVESTMENT IN BIRD JONSSON SCREENS

One mill writes:

"Our nine Jousson
Screens for knotting
sulphite bare already paid for themselves in six months time".

Another says: "Our Jousson Screen paid for itself twice over in a period of twelve months".

BIRD MACHINE COMPANY

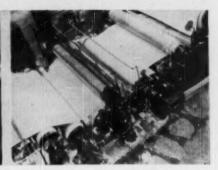
This battery of Jonsson Screens is delivering brown stock to a washer. The stock is free of knots, shives and chips. Uniform drying and maximum recovery of black liquor results.



SCENES AT NEW YORK & PENN CO.'s Lock Havon mill: Vertical view of Improved Paper Machinery Corp. agitators in Stabbins tile-lined chast.



IMPROVED PAPER MACHINERY CORP. vecsum seveoff, or Lock Meven.



Beloit Dual Couch in action at New York & Penn Lock Hoven mill.

through the use of a pair of 3½ per cent stock receiving and dilution tanks automatically alternated in receiving and discharging the pulp to final 3½ per cent storage tanks by means of electrodes connected to B & W controllers.

On the level of the control room in the pulp preparation layout, we find installed the Impco vertical agitators with Falk drives powered by Reliance. On a secondary level is the Impco saveall and Falk-driven Impco horizontal agitators for the two machine chests.

After refining the stock is ready for the machine. From the refining equipment, stock is pumped from the dilution tanks into three final storage tanks and out of these, each type of stock enters a proportioning box equipped with a Brooke level regulator. Each compartment in the proportioning box has a machined gate which is set on scale. From the proportioning operation, stock goes through a Jones Majestic jordan into the machine chest. There are Brooke regulators wherever stock is fed.

A separate control laboratory for the pulp preparation system—which is identical for both soda and sulfite—where frequent checks are made for freeness and consistency, is a feature.

Heading toward the machine room, the stock is sent through E. D. Jones 40-inch Rotary screens, and through a circulating head box to the wire.

#### No. 3 Machine

The Beloit equipment for the No. 3 machine initiates at the stock distributor, a double opposed flow type where the stock is completely mixed as it passes through a rectifier roll. The rear of the head vat is baffled for recirculation so that a constant flow of stock can be maintained to the distributor. The cast brass pond sides enclose two more motor driven rectifier rolls and a double slice designed for speed up to 1000 feet per minute.

The latest design removable Fourdrinier carries a 156-in. wide by 100 ft. long wire. The 24-in. diameter breast roll is centrifugally cast bronze. After the forming board, alternate table rolls and water deflectors, and six stainless steel oscillating suction boxes, there is a 30-in. diameter Beloit suction primary couch roll followed by a 30-in. diameter main suction couch roll. The Fourdriniers shake is the high speed shake arrangement.

An aluminum air driven roll provides for regulating the draw between the suction couch and the Beloit four-roll dual press, arranged with two rubber covered suction press rolls positioned on each side of a Rubroc center roll and a fourth rubber covered roll mounted on top of the first suction press. The nip pressure is applied and regulated by hand operated worm gear mechanisms with spring elements and the latest type pressure sacs and gauges for indicating pressures being applied. The press felts are guided

by air operated vertical automatic guides and hand guides. On Lock Haven machines there are 14 Vickery Felt Conditioners and 138 dryer doctors, 76 calender roll doctors, 51 supercalender roll doctors, 9 breaker roll doctors, 4 coating roll doctors, 3 breast roll doctors, one reel drum doctor, and one smoothing press doctor.

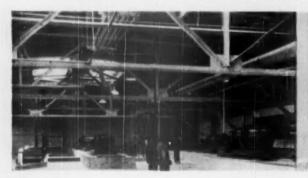
From the dual press, the sheet passes through the smoothing press and then to the dryers. There are thirty-three 60-in. diameter paper dryers, six 60-in. felt dryers and eight 60-in. dryers, divided into three separate sections. Each section is complete with top and bottom felt equipment, including stretchers and Beloit air operated automatic horizontal felt guides. All the paper and felt dryers are designed and built suitable for 75 lbs. steam pressure and are mounted in heavy duty SKF self-aligning roller bearings continuously oiled from a Bowser system. The paper dryers are driven by a Beloit fully enclosed single helical gear system arranged with one indrive point for each dryer section.

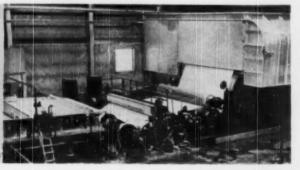
Following the second dryer section is a six-roll machine calender stack of chilled iron rolls with an air cylinder pressure arrangement and motor operated lift for lifting and separating the rolls.

#### **Coating and Preparation**

The two coating units are in this area in the machine, and coat the paper in a

FPPFFFF NEW YORK & PENN CO. EQUIPMENT: Left-Floor view of Improved Paper Machinery Corp. vertical agitators with Folk drives, powered by Reliance Electric & Eng. Co. Motors. Right-Fourdrinier, couch and press section of new Select machine.





## IN AMERICA'S FINEST MILLS

The stock preparation layout at the New York & Pennsylvania Company's Lock Haven Plant — featured in this issue as "one of the most modern in the industry" — includes these Jones installations:

JONES STANDARD REFINERS—for basic stock preparation

JONES HIGH SPEED REFINERS - used to de-fibre broke from the paper machine

MAJESTIC MACHINE JORDANS — for final stock control before the paper machine

JONES 40-INCH MACHINE SCREENS - for cleaning and formation

In America's finest mills you will find Jones installations . . . engineered to an intimate knowledge of the overall operation of which each is a part . . . supplied from a complete line of quality stock preparation machinery.

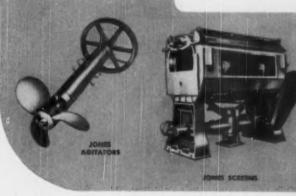
If you have a problem in stock preparation, you can profit by Jones engineering and experience. Write us for particulars. No obligation, of course.

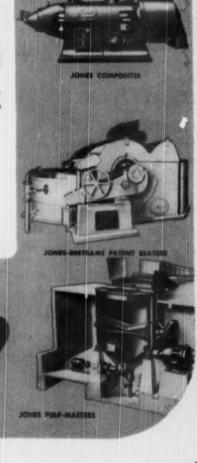
E. D. JONES & SONS COMPANY



PITTSPIELD , MASS.

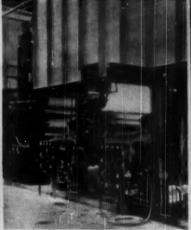
BUILDERS OF QUALITY STOCK PREPARATION MACHINERY







INTERESTING EQUIPMENT AT the Lock Hoven Mill of New York & Penn Co. includes: Fuller Airveyor system for clay handling. Three storage siles at for right.



FRONT SIDE OF THE MACHINE CALENDER and conting sections with control panels at the N. Y. & Penn Co., will.



HERE THE SULFITE HYDRAPULPER is being loaded from Louden handling equipment at Lack Haven

process somewhat similar to simple printing press methods. The methods of handling coating supplies at Lock Haven are automatic. Clay is removed from cars by a Fuller Airveyor system into three steel silos carrying 1,000,000 lbs. or the equivalent of 13 carloads of clay. Clay may also be conveyed direct into the storage tank in the coating system, also by Airveyor, or by rotary feeder into the weigh tank. It is fed from here by batch, with water, into a stainless steel counter-rotating mixer with other coating agents.

Starch is handled from bags into the starch weigh tank. Once the starch is in the weigh tank, water is metered into the batch and the agitator started up. Starch is dumped when cooked up to 200 degrees F, during which plasticizers are added.

It is then joined with the clay mixture in the mixer, preservatives added, and two sets of storage tanks, with slow agitation to hold it for use. A Moyno pump impells it through stainless steel circulating lines into the coating pans of the coating unit on the machine. Excess is

EQUIPMENT AT LOCK HAVEN: Come end of clay storage sites is directed into mixing equipment for ceating preparation room.



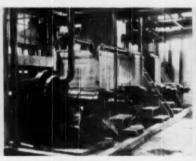
pumped back into the storage tank. Five thousand lbs. of clay and more than 1,000 lbs. of starch go into a batch of coating with, of course, water, and other coating chemicals.

The two coating stations are followed by 13 cast iron highly polished coating dryers 18 in. in diameter, six following the first coater unit and seven following the second unit.

#### Supercalandering

Following the third (after dryer) section is the special patented machine supercalender, the first machine to be built with a supercalender before the reel. It consists of three sets of rolls, each containing a 38 in. diameter Farreloy bottom roll, a 34 in. diameter Farreloy top roll and two 20 in. diameter paper filled rolls. Each of these rolls is furnished with an oscillating type Vickery doctor. The 34 in. diameter rolls are supported in swing arms and the paper filled rolls are supported from this same swing arm and arranged so that they can be rotated around so that either paper filled roll can be quickly transferred from operating to

E. D. JONES & SONS standard stock refiners in action.



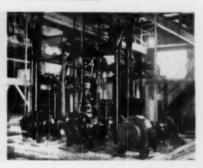
non-operating position. Pressure is applied to the top swing arm from an air diaphragm mounted on the overhead beam where the motor lift is also mounted. Fly rolls and rope sheaves complete this huge calender so that the sheet may be passed continuously from the after dryers through the supercalender to the Beloit center wind reel.

The completed reel spool of paper is then transferred by overhead crane to the special shaft type Beloit rewinder with slitter attachment, Reliance electric tension control and movable spindles.

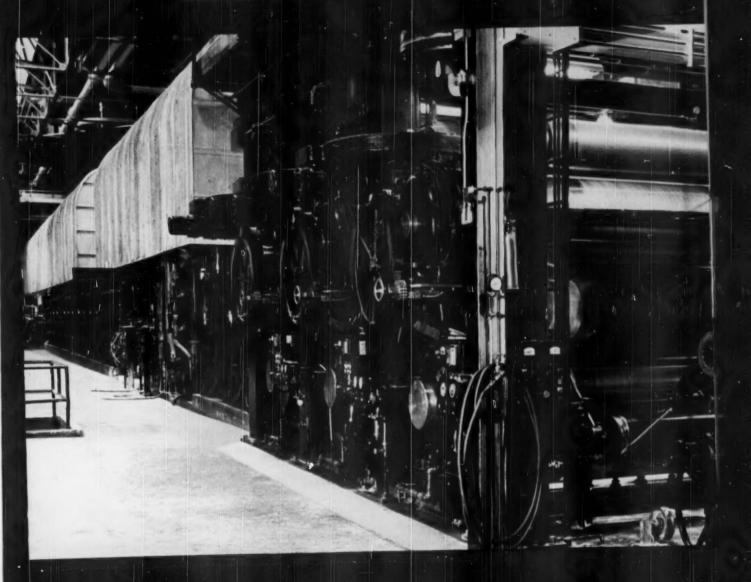
#### Sectional Electric Drive

The complete sectional electric drive for the machine involving about 20 motors, was furnished by The Reliance Electric and Engineering Co. The special super-calenders have all bottom rolls driven from one motor which drives the first bottom calender roll direct through a hypoid gear unit, the pinion shaft of which is extended and tapered pulleys mounted for driving the spiral bevel gear units on the last two bottom rolls. The extended pinion shaft is equipped with two

BATTERY OF E. D. JONES HIGH SPEED JORDANS driven by Reliance motors, handle defibered dry brake from the machine.



SALUTE



W

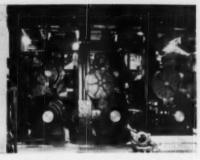
SELOIT LEON WORKS, BELOIT, WISCONSIN



CONTROL EQUIPMENT AT NEW YORK & PENN CO. mill includes: Automatically operated stock control valves by Hanna Engineering Works.



PARTIAL VIEW OF BROWN PANELBOARDS in stock control room. Metal stripping and lights on panels are actually a moving flow chart.



FRONT VIEW OF COATING PROCESS STACKS on machine, showing SKF bearings.

mechanical type friction clutches so that the third calender unit or the second and third units can be started or stopped. Top calender rolls are driven by Reliance "helper type" motors.

The suction rolls are served by Nash Hytor vacuum pumps located in the basement.

### History of the Company

It was in 1890 that Col. Augustus G. Paine came to the Pennsylvania town and effected a merger with the Armstrong interests to form the New York & Pennsylvania Co. The mills involved were known as the Pennsylvania Pulp & Paper Co. in Lock Haven, and two outlying plants: Champlain Fibre Co. at Willsboro and the Clarion Pulp & Paper Co. at Johnsonburg. Until then, and except for the relatively small pulp and paper mill, Lock Haven had been noted primarily for tanning and lumbering. The picturesque mill pond which now reflects the newest building in the modern organization is a historic reminder of the early log ponds of Lock Haven.

Col. Paine, who became president of the newly formed company, was a Maine man who later engaged in factoring in Boston. Soon he and his son, A. G. Paine, Jr., were prominent in the U. S. pulp and paper industry as the fortunes of the organization grew. Col. Paine was also a former president of the American Paper and Pulp Association.

Descendants of the two men are high in the company today. Eustis Paine is chairman of the board. Peter S. Paine is president, and A. G. Paine II is secretary. Others have long records in executive positions—for example, V. M. Stouck, vice president and general manager (with headquarters at Lock Haven) joined the company 50 years ago. Still others with long records in the company are H. S. Oliver, vice president and treasurer; K. R. James, assistant secretary-treasurer; and C. W. Gallup, purchasing agent and assistant to the president. Gibson Stouck is executive assistant to his father; and H. C. Church, technical assistant.

# **Operations Personnel**

Also active in assisting Mr. Stouck in operations are Neal Jones, manager of the Johnsonburg Mills; Frank J. Flaig, super-

intendent of the Lock Haven mill, and Emil M. Colquist, superintendent of the Castanea mill adjoining the Lock Haven mill

The Castanea mill was built in 1920 and, until the present expansion program, marked one of the major improvements in the company's production facilities. This unit consisted of four 156-inch machines. New York and Pennsylvania has continued to enlarge machine capacity until today the Lock Haven, Castanea and Johnsonburg mills produce a daily tonnage close to 700 tons.

It was during the first world war that the company began making paper for the Curtis Publishing Co. in Philadelphia, and it was in 1920, with the building of Castanea, that the big publishing company became a stockholder in New York and Penn. Considerable of the output of the company's paper goes to buyers other than Curtis, however, but it can be said generally that the improvements in the mills over the past 30 years have reflected chiefly the growth of the Curtis magazines: The Saturday Evening Post, Ladies' Home Journal, Holiday, Jack and Jill, and The Country Gentleman.

# American Cyanamid Holds Laboratories' Open House

Stamford Research Laboratories of American Cyanamid Co. were opened to the public May 19 for the first time since they were established in 1936.

Although visitors in the past have included industrialists, customers, students and scientists, the laboratories have never before conducted an Open House.

Cyanamid's consolidated Research Laboratories, which have been so important in the development of sulfadiazine, melamine plastics, wet strength resins for paper, Parathion insecticides, chemicals for synthetic fibers, and many other products, consist of a large, five-story building and a number of smaller buildings, on the Boston Post Road, just west of Stamford, Conn.

Almost \$5,000,000 per year is spent in the laboratories' work. Buildings are spread over an area of 40.6 acres. Floor space alone consists of 410,000 square feet, more than 9.6 acres. Approximately 830 people are employed, 400 of whom have technical degrees.

Laboratory equipment includes balances so delicate that they can weigh the ink in a comma on a piece of paper. Stamford has over 23,000 infra red spectra on file—the largest collection in the world. About 600 patents have been issued to personnel of the laboratories.

# Stowe-Woodward Appoints Dickson





JOHN D. DICKSON, Jr. (left), whe succeeds ROY W. MOLDEN (right) as Michigan-Wisconsin-Minnesotte territory representative for Stewe-Woodward, Inc., Mr. Helden centinuing in consulting capacity. Mr. Dickson returns soon to his old home in Kalamsene, Mich. Mr. Holden also lives there, and, incidentally they are close friends of many years' standing and two of the best known industry affiliates in the Middle West area.

Stowe-Woodward, Inc., manufacturer of rubber covered rolls and the Stonite and Microrok rolls, announces appointment of John D. Dickson, Jr. as sales engineer in the Michigan-Wisconsin-Minnesota territory.

A graduate in chemical engineering of the University of Maine, Mr. Dickson's entire business career has been spent in the paper industry, and he is widely known from his long association with R. T. Vanderbilt Co., especially in the Middle West.

Upon completion of his training course at the factory, he will establish head-quarters in Kalamazoo, Mich., for a long time his home before a recent move to New York.

Mr. Dickson succeeds Roy W. Holden who has represented Stowe-Woodward, Inc. in that territory for the past 21 years. Mr. Holden is retiring from active service for reasons of health, but will continue in a consulting capacity temporarily.

# Pennsalt Office in Detroit

The Pennsylvania Salt Manufacturing Company announces the opening of a new district sales office on June 1 to serve industrial cuntomers of Detroit and Southern Michigan. Harry G. Potts, district sales manager of Pennsalt's Heavy Chemicals Department, will be in charge. The office is at 114 Buhl Building, 535 Griswold St., Detroit.

# New Camachines have the right

answer to your roll production problem.

Whether it's a two-ton roll of newsprint or a haif-ounce roll of plastic tape you give your customers better quality with Camachine-made rolls.

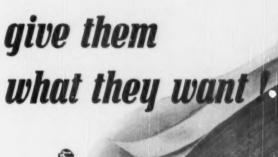
Camachines are designed and built by specialists in roll production equipment. No matter what material you handle you will be amazed by the performance of the new Camachines.

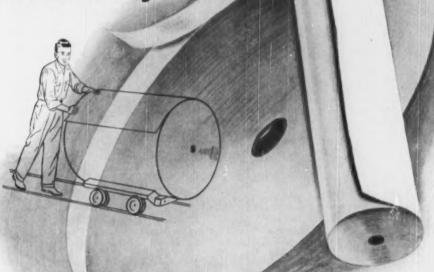
Long rolls or thin rolls? Heavy or light? Paper, plastic, rubber or textile? Coated materials, tacky materials or materials of uneven caliper?

When it comes to presenting your customers with better rolls of any size, any material, Camachines will help you to . . .



The Camachine Commander—a fast, heavy-duty slitter-rewinder for plain, waxed, gummed and coated paper or paper board. Speeds up to 2000 fpm. Revound rolls up to 40° dia. Write for free copy of Bulletin 2000,





Cameron Machine Company - 61 Poplar Street - Brooklyn 2, N. Y.

Camachine engineers will be pleased to

consult with you on any roll production problem.

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July 1950

# CHICAGOCONVENTION

# **WELL-DONE SUPERINTENDENT'S PROGRAM**

Up the lake shore and, therefore, away from the worst of a sticky Chicago heat wave, the national convention of the 31-year-old American Pulp & Paper Mill Superintendents' Association drew a registered attendance of 580 men and about 100 women guests. Even at the Edgewater Beach the temperature hit 90 degrees.

The convention was distinguished because of the increased participation of mill operators, technicians and engineers in the program, quite a number from mills whose names have not been on past programs.

Important new industry developments described in papers were:

- 1. The Combined Locks Paper Co.'s new lightweight paper coating process, applying a very thin coating to a wet web at the dandy roll and at one of the presses of a Fourdrinier machine. The process is to be established on a royalty basis.
- 2. Successful burning of sulfite liquor and powdered coal, achieving a steam output in a 4-hour run of a 1 to 1 ratio. at Nekoosa-Edwards Paper Co., in a conventional water-wall and cooled Combustion Engineering power boiler. This was done in behalf of the Wisconsin Sulfite Research League, as a sequel step to the successful trials of the General American Rosenblad switch system evaporation of calcium base liquor at the Interlake mill in Appleton. While the boiler trials were successful, the point should be stressed that each mill would have individual technical and economic problems to work out. For some mills this combination of evaporation and burning, with calcium base retained, may be the answer to their stream problems-but not for others.
- 3. A semi-chemical neutral sulfite system at Consolidated Water Power & Paper, Wisconsin Rapids, using Wisconsin aspen or "poppel" and bleaching it for mixture with conventional sulfite pulps for magazine coated papers. Also described was an alkaline semi-chemical system for corrugated board, at Gaylord Container Corp., Bogalusa, La.

These events might be described as milestones in the progress of the industry and these and other papers on actual mile experiences were a realization of one of the most important aims in the administration of Charles H. Reese, manufacturing vice president of Nekoosa-Edwards, whose term as association president closed with him being acclaimed by Fred Soderberg, of General Dyestuffs, president of the Affiliates, as "one of the best presidents the association ever had." Mr. Reese visited eight of the ten divi-





CHARLES E. ACKLEY (left), Paper Mill Supt., Crown Zellerbuch Corp., West Linn, Ors., who is new Notional President of American Pulp & Paper Mill Supts. Association. Bern in Michigan, he has worked in Michigan, Wisconein. Westington and Oregon mills during a long career of papermoking. CHARLES H. BEESE (right), Vice President in charge of Manufacturing, Nekoson-Edwards Peper Co., Port Edwards, Wis., who completed a successful year as President, during which he towed from coast to coast to visit Divisions and encourage them in thrir activities. He turned the gavel over to Mr. Ackley at the class of the Chicago convention.

sions during his term, believed to be a record. In his term 81 new members were enrolled to bring the total to 1,523; affiliates increasing from 148 to 165.

The meeting was the swan song convention for the veteran secretary-treasurer, George W. Craigie, who retires on pension Sept. 1, being succeeded then by Harry E. Weston. Headquarters will be moved from New York to Chicago.

### The Coating Session

Easily the best-attended of group meetings was a lively, original and frank session on coating. The number of topics were narrow, due to uncertainty over a Milwaukee lawsuit involving machine-coating patents and processes of several of the biggest paper companies, upon which the judge's decision is now awaited.

For once, youth had its say in the coating session, attended by 158 delegates at its peak. Oldtimers commented they mostly disclosed the same mistakes the latter made years ago, but didn't talk about so frankly.

Clyde W. Steele, Combined Locks' coating superintendent, gave the talk on the new process described in patents 2,398,843 and 2,426,043, obtained by G. D. Muggleton and A. Peipenburg of the Wisconsin mill. Said Mr. Steele:

"It is essentially the uniform application of the Fourdrinier part of the machine of a low solids clay and binder suspension in a thin liquid sheet across the top of the dandy roll by means of a flow box and especially inclined apron so regulated that the coating just fills the meshes of the wire covering and deposits this suspension to the top of the wet web as it passes under the dandy by printing-like action, thereby coating the top, or felt side, of the sheet without disturbing formation. Because of its convenience and accessibility, the wire side is coated on a reverse-running third press by metering the clay and starch suspension between the nip of the top press roll and applicator roll, smoothing out the surface tension lines by proper smoothing rolls and depositing the coating color on the wire side of the wet web as it enters the press nip. The press felt carries the softened web through the nip without breaks.

"The web is then picked off the press and carried through a smoothing press and into the dryer section where it is dried in the conventional manner. The process is simple, the equipment inexpensive and rugged, yet capable of controlling closely the weight of coating applied."

The machine tender only has to adjust flow spreader slice, make or break coating roll contact and start and stop color pumps. One to six pounds per ream can be applied to average lightweight paper or up to 12 pounds on a slow 60-pound sheet. Mr. Steele predicted if a demand is found for clay coating of tissue paper for printing purposes, the industry will "sweat out" a way to do it.

Bruce Brown, Jr., of Fibreboard Products, Inc., Vernon, Div., Los Angeles, told how in the West a prejudice was overcome and the grain of the sheet was reversed on the printing press, running the paper opposite to orthodox manner, accomplishing better printing results. He told of using a simple breaker stack previous to the coater in the nest of dryers, with stainless steel face, and by putting the roll on top, increasing the finish without decreasing the thickness of the board.

Troubles they had in coating board, never before told so openly, according to oldtimers, were related by both Mr. Brown and Harrison Kindig of MacSim-Bar Paper Co., Otsego, Mich. A four-year history of overcoming troubles in applying the Champion process was the burden of a genial talk by Mr. Kindig. Dryer breaks from widely varied moisture content of sheet, traced to a second coating unit, was overcome when it was moved from a position 20 dryers beyond the first unit to 20 dryers ahead of it. Here it scraped fibers off the board top line until a slightly wider wiper blade was installed. Recently improved controls stopped settling out of titanium dioxide on tank bottoms and its showing up on screens.

Henry Nendorf of Rex Paper told how



# ... not a Jack-of-All-Trades... just MASTER of ONE

The proverbial handy man never reached big league stature in any of his jobs. And no single material is master of all corrosion problems found in your pulp mill.

That is why ESCO casts not only the commonly used or "standard" stainless steels, but also works in special analyses required to fit specific operating conditions. Thus, the following analyses have been used in manufacturing equipment for pulp mills throughout the country:

ESCO ALLOY 20 for cooler piping after sulfur burner.

**ESCO ALLOY 32 (7410)** for pulp grinder and pump parts where hardness is desirable.



# **ELECTRIC STEEL FOUNDRY**

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**ESCO ALLOY 40 (7304)** for digester strainer screens and circulating systems for kraft mills (alkaline base liquors).

ESCO ALLOY 45 (T317) for digester circulating systems for sulfite mills (acid base liquors).

Perhaps somewhere in your plant there is a trouble zone where corrosion has been excessive, and where ESCO metallurgical experience and special stainless steels can provide a workable solution.

ESCO welcomes your consultation. See your nearest ESCO representative, or write full particulars of your problem including the corrosive agents used, their concentrations, temperatures, pressures, etc. The ESCO catalog of stainless and high alloy steels outlines our facilities and services. Fill in and mail the coupon, and you will receive a copy promptly.

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to achieve quality offset papers by smoothness, opacity, water resistance, uniformity, freedom from curl, minimum tendency to adhere to rubber blanket, high pick resistance and absence of materials inhibiting ink drying.

William A. Zonner, manager, new development, book paper division, St. Regis Paper Co., Watertown, N. Y., and New York City, told of savings in manpower and materials in on-machine coating as against off-machine coaters, but furnish must be adapted. Coating machines should be equipped with automatic stops to eliminate wrap-ups and injury to rubber rolls, and as many chromium rolls as possible should be used, he said. He told of other economic problems of the coated paper mills, one being the \$18-\$20 per ton price for clay compared to \$6 in the early '30's.

Dale Sherman, St. Regis supercalender superintendent, Deferiot, N. Y., told of wide roll high speed supercalenders.

None of the other group meetings reached more than half the attendance of the coating one, but paperboard, power, and kraft meetings packed smaller rooms with 60 or 70 at times. So did sulfite pulping, at the time when Lawrence W. Murfeldt, pulp superintendent, told of the Wisconsin Rapids semichemical plant.

### **Power Session**

E. H. Kennedy of Combustion Engineering-Superheater, Inc., and F. C. Coldwell of Nekoosa-Edwards were co-authors of the paper which attracted a full house on the successful burning of waste liquor and powdered coal in the Port Edwards mill. In carrying out this test, a lot of spade work was done in calibrating different nozzles and mechanical atomizers. All of the collection of liquor at the proper solids content must still be worked out by interested mills, for the cost of evaporation by the Rosenblad system is dependent upon the status of solids that can be collected.

A kraft mill may start out with 18% to 20% solids but for sulfite it is only about 11% to 13% in the digesters and any water collected afterward may bring it down to 8% to 10%. Of course, stainless steels or alloys would be required in evaporation and handling and supplying right up to the boiler. The Sulfite Research League wanted to see what could be done in a normal boiler and so the work was done in a rated 125,000 lbs. per hour boiler.

This boiler has a mechanical ash collector made by Western Precipitation and this appeared to do a good job of keeping fly ash in. There apparently is no greater problem of disposal than for coal ash. This is, therefore, one way of burning the liquor and it was mixed with powdered coal because in a water-walled type of boiler it is impossible to keep the liquor alone hot enough for burning.

The place of the gas turbine was outlined at this session by Dr. J. T. Rettaliata, Illinois Institute of Technology, who said it won't put steam turbines out of business, but "special applications of gas









LEADERS AT CHICAGO (left to right):

HERBERT T. RANDALL, Vice Pres., Champian Paper & Fibre Co., Hamilton, O., who led an interesting panel discussion of Superintendents' delies in relation to Management, Research, Engineering and Employe Relations. These next three are slated to become National Presidents of the Superintendents' Association—in this order—in the next three years:

in the next three years:

OLIN SUTTON, Sutherland Paper Co., Kalamazoo, Mich., new First Vice President (to be President 1951-2).

CORDON SINGLETARY, Brunswick Pulp & Paper Co., Brunswick, Go., new Second Vice President (to be President 1952-3).

DONALD R. DICK, Howard Smith Paper Mills Ltd., Carnwell, Ont. (to be President 1953-4). Mr. Dick, Paper

dent 1992-3).

DONALD R. DICK, Howard Smith Paper Mills Ltd., Cornwall, Ont. (to be President 1953-4). Mr. Dick, Paper Preduction Mgr. for Howard Smith, would be the second Conadian in history to head the association—Byron D. Millidge, in 1938, was the first one.

turbines will be the answer," especially where oil or gas are now used.

Plant Engineer S. E. Tomczak of Flambeau Paper Div., Kansas City Star Co., Park Falls, Wis., told how two Fairbanks-Morse Model 38D 8½ ten-cylinder diesels, directly connected to generators, were purchased in recent years as a result of serious droughts and that the diesels and a new boiler (replacing four old ones) were "our security" and kept the mill running. Cost per kilowatt hour of No. 2 diesel was \$1.37; predetermined costs for No. 1 are the same, but elimination of an operator on each shift brought it down to 91232.

### Wood Session

Dr. Truman A. Pascoe, technical director, Nekoosa-Edwards, reported on jack pine storage deterioration under a project sponsored by the northern Wisconsin sulfate mills and the Forest Products Lab. at Madison. For highest possible pulp quality, he said, jack pine should be used as soon as cut and both rough and peeled wood, especially the former, shows loss of strength and other qualities in storage. Especially in the first year, yield, mullen and tear go down rapidly.

While Dowicide was used in treatment, little or no results were reported from it, anid Dr. Pascoe. The efficacy of the fungicide itself was not questioned, of course, but other factors, especially insects, were to blame. Mace Harris, manager of pulp manufacturing, The Northwest Paper Co., who presided, said, "it looks like we should use our jack pine as fast as we can." His company checked strength loss in wood cut in four sensons, and commented that in 35 years of study, "we still don't know all the answers."

Vance Edwardes, now consultant of Corinth, N. Y., said there was much unnecessary cleaning of wood and various machines for this purpose were causing losses up to 30%—up to 24% was not uncommon. He said if through proper supervision and without sacrificing cleanliness, the loss is cut 50%, there is a sav-

ing of \$1.50 per cord. Some mills have eliminated hand cleaning, depending on bleaching and screening. Such losses are also involved in stream pollution, he said. The Pacific Coast whole log hydraulic barker, he called "the most important and spectacular step in years" to cut wood losses—sawing 18% to 20%.

The portable D. J. Murray 60-inch, 10-knife chipper, built according to plans by National Container Corp., Tomahawk, Wis., was described by Vice President C. G. Laren and Forester Marlowe P. Burgy (picture in 1949 North American Review Number, page 111). A Bucyrus crane and Williams bucket lifts wood to top of the machine. Its use makes the mill self-sufficient in aspen and other hardwoods, without resorting to rail shipments. An additional 20% to 25% of chips from wood formerly left on ground as unmerchantable, means big savings in production.

### Sulfite Session

In the sulfite session, Mr. Murfeldt told how the Forest Products Laboratory, Marathon Corp., and Solvay Process Co. helped work out the semichemical process for Wisconsin Rapids. Five double disc Bauer refiners are used to break down the 70% yield chips from two digesters. Trimbey screens and an Impoovacuum decker with DeZurik regulator are among new equipment. A blend of neutral semichemical sulfite and acid sulfite are bleached in a three-stage plant for magazine paper use.

"There seems no doubt that neutral semichemical sulfite made from poplar is a strong, clean, high grade pulp," he said. "Its drainage characteristics lie between groundwood and sulfite, its prehydrated qualities and ability to form well make it a new and useful ingredient for many paper furnishes. It has limitations, as do all pulps. We hope for substantial savings in spruce, balsam and fir, while using it."

Reporting recent developments in acid making, C. H. Beighey of Hammermill aroused some discussions on use of stain-

# SULPHUR

\*Interesting Facts Concerning This Basic Raw Material from the Gulf Coast Region

# \*LOADING



Sulphur intended for vessel shipment is brought to Galveston by rail from the mines at Newgulf. It is transferred directly from cars or from storage bins to the vessel.

The loading plant consists of two parallel storage bins spaced for enough apart to allow room for railroad tracks, tracks for the hoppers and cranes, and an endless conveyor bolt. The belt along the center line between the bins is straddled by four cranes and their movable hoppers.

The cranes pick up the sulphur from the bins or cars and discharge into the hoppers, which automatically feed the belt. It is weighed while on this moving belt. After weighing it is discharged onto a smaller belt which in turn discharges through a cylindrical telescopic spout directly into the vessel's hold.

Loading operations at one of the huge vats of Sulphur at our Newgulf, Texas mine. Such mountains of Sulphur are constantly being built at our mines, from which shipments are continually made.



TEXAS GULF SULPHUR
75 East 45th St. New York 17, N. Y.
Mines: Newgulf and Moss Bluff, Texas









less steel alloys in coolers. Some had failed in one place, but not another. Lee Eberhardt of Bauer Bros. told of the uses of Bauer disc refiners in sulfite mills, particularly the new and more efficient double disc machine. He cited numerous uses.

Several Canadian mills are refining

their fine screen rejects and adding them to newsgrade sulfite. Others are adding them to toweling and wrapper stocks. An eastern mill is contemplating using refined knotter and fine screen rejects for creped wadding.

### **Kraft Session**

The Gaylord Container paper in the

INDUSTRIAL AFFILIATES of the Superintendents' Association, past and new officers (I. to r.): FRED SODERRERG, soles and service director for Pulp & Paper Sales, General Dyestuff Corp., New York, who completed term as President and was given electric mannée clock for his conscientious jub well done; ALLAN HYER, Vice President in Charge of Soles, Beglay & Sawall Co., Waterstewn, N. Y., who wes elected new President; W. K. METCALFE, J. O. Ross Engineering, New York, elected First Vice President, and WALTER & MOREHOUSE, Manager, Paper Chemicals Div., Nopce Chemical Co., Harrisan, N. J., elected Second Vice President.

kraft session told of the manufacture of semichemical pulp for corrugating board. J. E. Sapp, chemical engineer, said about 7½% pine kraft pulp is added to oak semichemical to prevent wet end breaks. To gum semichemical, about 35% pine screenings are added. Semichemical liquor is recovered, mixed with liquor from kraft mill before evaporation. Operating without screens at Bogalusa, the hard semichemical pulp is put through two passes of disc refining before final treatment in jordans. Satisfactory pulps for corrugating are made from a wide variety of wood species.

The development of the Hydraclone centrifugal velocity-type separator was told by W. A. White, Jr., Shartle Bros. assistant chief engineer. It is economically beneficial for any mill using a mixed paper furnish to install a Hydraclone directly after their breaker beater or Hydrapulper in order to clean up their furnish as far back in the system as possible, he said, preventing grit and abrasive material from entering the system, saving maintenance, and allowing mixed paper mills to use cheaper furnish.

Carleton Clark, of Clark and Vicario, Bronxville, N. Y., told of results of deaerating paper stock ahead of the headbox in the kraft session, and Russell Winget of the National Council for Stream Improvement, reviewed kraft waste disposal problems.

In the board session chairmanned by Glen Sutton of Sutherland, there was a considerable review of problems and a

# MEET THE SUPERINTENDENTS & NEW VICE PRESIDENTS Where Will Future Conventions Be?

Charles E. Ackley, paper mill superintendent, Crown Zellerbach Corp., West Linn., Ore., is the new president of the Superintendents' Association, and the convention in 1951 has definitely been set for the Multnomah Hotel in Portland, Ore., June 24 to 29. It is customary that the convention follow the new president to his region of the industry, and so it is interesting to speculate on where other future Superintendents'

Next year, for example, Glen Sutton of Sutherland, now first vice president, is slated to advance to the presidency. Wouldn't it be delightful if this means a 1952 convention at Mackinac Island in North Michigan? Not so impossible, either. No doubt the Super-intendents will look into the resort situation in north Michigan.

Gordon Singletary of Brunswick, now second vice president, is due to preside in 1953, and this could mean Miami Beach or the much-discussed new hotel in Houston, Texas. That's the way the Southerners are talking today about it.

Then comes 1954, with Don Dick, a Canadian, Howard Smith Mills' manufacturing manager at Cornwall, due to be president. That means a convention in either Montreal or Toronto. A lot of these dates are a long way off, but as the popular song goes, the Superintendents might say, "we can dream, can't we?"

# Meet the New Veeps

meetings might be held.

In previous issues we have described the careers of the top officers of the association—last month we told of President Ackley's wide range of experience in outstanding Wisconsin, Michigan and Coast mills.

The two new vice presidents—fourth and fifth, respectively—are Harry E. Hadley, 46, mill manager, Gardner Board and Carton, Middletown, O., and Howard H. Street, 43, superintendent, National Vulcanized Fibre Co., Yorklyn, Del. The association has reached out for comparatively young men, representative of progressive elements of the industry and of the modern-day technical, scientifically trained operator for their new officers.

Mr. Hadley was born in Whippany, N. J., son of the late Byron Hadley, well known papermaker for 60 years. So Harry had his education in mill towns, in Middleton, O., then Lockport, N. Y., Union School, and here he got his first job at United Paperboard. He went to the Institute of Industrial Arts, Gardenvale, N. Y., graduating in 1922. "Besides, I want to give credit to the International Correspondence School of Scranton, Pa., which gave me my mechanical engineering degree," said Mr. Hadley.

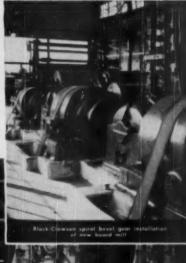
He went with Gardner in 1922, one of the biggest carton manufacturers, working up to be manager of the 600-ton Middletown mill, making paperboard, folding boxes and specialties. He is one of six brothers, all of whom had worked in the industry, just one other being still in it—Ray, who is machine tender at Middletown.

Mr. Street was born in Philadelphia, then lived at Kennetts Square, 30 miles out, where his father bought a farm. Went to Williamson School near Philly, and did graduate work in civil engineering at U, of Penn. For six years he was with an architectural woodwork manufacturing company and they assigned him to work closely with a supplier, National Vulcanized Fibre, in fabrication of Bakelite products for the building trade. The latter offered him a job in sales promotion, which he accepted, and this led to manufacturing and mill assignments. National Vulcanized uses rags and some dissolving wood pulp in making electrical insulation. It is done on Fourdrinier machines followed by laminations by acid process—as high as 44 plies at a time.





RAYMOND F. BENNETT (left), Manuf. Supt., Cellaphane Div., Ecusta Paper Corp., Pisgah Forest, N. C., and OSCAR STAMETS (right), retired former Production Engineer, Riegel Paper Corp., Milford, N. J., who were elected to one-year terms as Association Directors. Both are ax-Association Presidents. Mr. Bennett is spending most of this year at DuPant's collaphane plant in Clinton, laws, studying process for Olin DuPant-licensed plant to be completed by next May 1, at Ecusto.



# The DRIVE that really pays off



Hitch your paper machine to the most dependable make of drives that money can buy and you will avoid many a shut down for repair and many a production loss.

There is no better drive in existence than the Black-Clawsonno more generally used drive-no more dependable drive.

B-C drives are exceptionally rugged. They're quiet. They're virtually vibrationless. They're easy to synchronize to the required variations in speed of the several sections of the machine—particularly new machines.

- Spiral bavel gear Extended Shaft (Double Reduction with or without Airflex Clutch operation)
   Hypoid gear Calender reverse Dryor inching

# THE BLACK-CLAWSON CO., Hamilton, Ohio



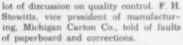
DIVISIONS: SHARTLE BROS. MACMINE CO., Middlotown, Obio DILTS MACMINE WORKS, Fulton, New York WESTERN SALES OFFICE: Mayor Bidg., Portland, Orogon

ASSOCIATE: ALEXANDER FLECK LIMITED, Ottowo, Connedo SUBSIDIARY: B-C INTERNATIONAL, LTD., 16 Catherine Place, Victoria, London S. W. 1, England





RAYMOND BARTON (loft), a Past Prexy of Association and Gen. Supt., Michigan Paper Co. of Plainwell, Mich., elected Trustee to complete late Kil Terry's term, and MARRY E. WESTON (right), elected Secretary-Treasurer, succeeding George Croigie of New York, who retires on pension Sept. 1. Offices will be moved to Chicago where Mr. Westen has been Assistant Secretary-Treesurer, New York Daily News Bldg, offices will be closed. Fred Boyce was re-elected Trustee for 3-year term, and fill Brydges continues for two years as third Trustee.



Harry E. Hadley, general superintendent, Gardner Board and Carton Co., told of variables of papermaking and their remedies. He stressed the human variables. Also dwelt on the influences of water.

The efficiency of the attrition mill in processing for development of flexular strength in hardboards decreases with increased energy consumption, said S. L. Schwartz and P. K. Baird, U. S. Forest Products Laboratory, in a report on making hardboard from fiberized watersoaked Douglas fir. Optimum qualities are reached at a given point in milling, above which any energy consumed creates bonding surfaces, mostly fines, beyond that required.

### Other Sessions

An educational paper on the principles and the art of color matching was presented by Dr. E. I. Stearns and F. O. Sundstrom of American Cyanamid's Calco Chemical division in the fine paper group. Basic principles of water removal and sheet formation, expounded by Nekoosa-Edwards' B. L. Kassing, and on the care of wires and felts, by Crystal Tissue's John Burdsall, rounded out this program.

In the maintenance meeting, General Supt. U. J. Westbrook of St. Regis, Pensacola, urged permanent magnets in return line from anti-friction bearings to oil system and in discharge line of pump supplying oil to bearings. Stewart Murray of SKF Industries talked on oiling.

The graphic arts session was pointed especially to the paper and printing problems so important in the Chicago area and delegates of that region.

General sessions offered a varied fare, high point being the last day's general conference led by Vice President Herbert T. Randall of Champion on the superintendents' responsibilities in management,





HARRY E. HADLEY (left) Mill Me Board & Carton Co., Middletown, O., elected Fourth Vice President, and HOWARD H. STREET, Supt., Vice President, and HOWARD H. STREET, Supt., Notional Vulcanised Fibre Co., Yerklyn, Del., elacted Fifth Vice President. These are new foces in the rotation of officers in the hierarchy—two being elected this year because of a resignation. Both are trained engineers—in their 40's and also in marks recognition of younger, technically trained men for top offices.

engineering, research and personnel mat-

Opening day, James Cunningham, president of Republic Meters, talked on Americanism, and Paul Beedle, a management consultant, talked of teamwork in industry. How the industry can use weather information was another general subject. And at the final luncheon, J. A. Spencer of General Electric, discussed industrial and community relations.

### **General Conference**

In the general conference, with Mr. Randall in the chair, the members of the panel were: Grover Keeth, chief engineer, Marathon Corp., who read S. L. Foster's-of KVP- paper in his absence, caused by illness; A. E. H. Fair, president and general manager Alliance Paper Mills, Ltd., Toronto; and A. S. Anderson, general industrial relations, Champion Paper Co., Hamilton, O.

Each touched on broader aspects of the spheres in which today's superintendent must operate and so understand. Mr. Foster placed emphasis on the need for getting young engineers off to a good start in their formative years. He feels that the practical views and experiences of the superintendent can be of great value in shaping the basic engineering knowledge acquired in school by these young men. Mr. Keeth added that the superintendents' job is to get a pound of paper on the platform under varied requirements. He needs many tools and the young engineer is an important one to him.

Mr. Fair cited complexities of today's superintending and said the superintendent is becoming more a part of management-with management type of problems. Therefore, he must accept research and control freely. He must translate this technical knowledge into fact because he is "really one man who does the controlling." His job probably runs close to requiring 28% of his time in handling people, 26% in managing, 24% explaining policies and 22% in technical pursuits.





J. E. SAPP (left), Chemical Engineer, Gaylord Cantainer Corp., Bogalusa, La., who was on the Chicago convention program to give a paper on the new Semi-Chemical pulping and Sprout-Waldron refining system installed at his mill, which had attracted

wide industry interest.

J. A. SPENCER (right), Manager of Employe Relations, Apparatus Dept., General Electric Co., Schonectudy, N. Y., who was programmed for a major address at the Chicago meeting on some "hopeful experiments" in industrial and community relations.

Furthermore, Mr. Fair made the point that not enough thought is spent in developing superintendents, and that companies will regret it if they do not consider this point.

"The part of the superintendent in a mill today is working in five areas in order to assist in good public relations and promote job satisfaction among the said Mr. Anderson. He defined men. these "areas" as (1) employment, (2) safety, (3) wages and benefits, (4) leisure time activities and, (5) training and development.

He said the job of maintaining teamwork is an important one to the superintendent. To have a team, the above factors are necessary.

# **RULES OF SALESMANSHIP** Lovejoy's Six Points Listed

One of the highlights of the Superintendents' Convention at Chicago was a talk on salesman-ship by Frank W. Lovejoy, sales manager, Socony-Vacuum Oil Co., before the largest Affiliates' dinner ever held—about 250 were there (and a lot of them had pencils and pads out, taking notes).

Here's some Lovejoy quips

We buy from whom we like-not what we

Those beautiful sales promotion brochures with the president's picture on page 1, which have everyone agog when they come out, are thrown in the back seat and never opened again, and rightly so."
"Business is built on what a customer thinks

you are-not what you are."
"Markets are minds-not people."

"Don't tell a customer how wonderfully and carefully you make a product-tell him what it will do for him."

If you print something put red in it. Don't ask me why that's a sales color-just put red

And here's his six maxims for a good salesman:

1. Don't talk too much

Never assume an argumentative manner.

Inquire first; attack second. Be sure the buyer understands you understand his objections.

Stick to one key issue.

6. When you are stuck, use one word: Why?" It puts the customer on the defensive; saves you a lot of grief.

# Swift's new process\* Glue retains

an unusual percentage of clay and pigment!

In book paper production, Swift's new process Glue is meeting with remarkable success. One reason is that it saves an unusual percentage of clay and titanium dioxide by keeping it on the screen.

Another reason for the success of Swift's new process Glue in this operation is that it's economical. It can be used at low concentration. And it's easy to handle—easy to prepare. Swift's Glue goes into solution rapidly with a minimum of foam. Clearer effluents are obtained.



# Also . . . high recovery in Flotation-Type Saveall!

In the Sveen solution, Swift's new process Glue has a very high recovery efficiency. Mills report an increased fibre recovery because Swift's Glue tends to "flock" at the right time. Results are consistent and uniform.



# Also . . . higher Pick Test

In production of paper that needs increased Pick Test, papermen have found Swift's new process Glue an efficient agent. As a partial replacement for starch in a machine coating operation, Swift's new process Glue has shown greater film forming properties and tensile strength than a total starch solution.

For more information write

# \*Swift's new process Glue made by an exclusive process!

new process animal Glue is a highly efficient processing agent because it is made from fresh bones by an exclusive, patented Swift method . . . a method that assures a uniform, light-colored glue of unusual purity. This method permits precise synchronized control and minimizes contact with foreign or contaminating substances.

# Swift & Company









IN RECENT INDUSTRY NEWS (left to right):

JOSEPH S. SCHEUERMANN, named Vice President of recently announced Converting Equipment Division of Bagley & Sewall Co., for sale of mill and converting winders, leminating and other equipment. Abe Cooper, President of B & S announced new offices in New York City at 500 5th Ave., where Mr. Scheuermann will be in charge.

be in charge.

JOHN A. GUITHRIE, Ph.D. Harvard, and Professor of Economics, Washington State Callege, Pullman, Wash.,
whose new beak "The Economics of Pulp and Paper" (\$2.50, publ. by the callege) makes detailed analysis of
many important trends and predicts future courses (see PULP & PAPER's current North American Review Number, section on 30-Year Review).

BM. M. COSTEN, Sales Engineer for Swenson Evoporator Co. out of Philadelphia office (9 Rittenhouse Pl., Ardmare, Pa.), transferred from New York to serve industries in East Penn., South N. J., Delisware and Maryland.

J. RAYMOND SANBORN, Ph.D., former Professor of Microbiology at Syracuse, new Technical Director of Pulp and Paper Dirision of National Aluminate Corp., Chicago, makers of water treatment, slime central and other paper industry schemicals. No formers, was the IP Research.



GEORGE W. BROWN, the president and general manager since 1930 of Gair Company Canada Limited, Toronto, and a member of the Board of Directors of Robert Gair Company, Inc., New York, manufacturers of paperboard, folding cartons and shipping containers, died June 1 after a long illness. His age was 64.

BEN VINCENT, widely known resident of Chillicothe, O., died recently at his home after an extended illness. Among the family at his bedside was his son, REX VINCENT, Bulkley, Dunton Pulp Co., New York.

A. E. "AL" SIMPSON, who at 17 became the youngest log scaler in British Columbia and who retired from the logging business at the age of 41 when he sold his holdings in Batco Development Co. on Vancouver Island to the H. R. Mac-Millan interests, died at his Vancouver, B. C., home, aged 46. In recent years he had become well known as a breeder of thoroughbred horses.

SVEN FAHLGREN, sales engineer, Bird Machine Co., South Walpole, Mass., was on the Pacific Coast in late April and hurried home to prepare to sail with Mrs. Fahlgren on July 3 for a tour of Scandinavian countries.

RICHARD W. WORTHAM, JR., Executive vice-president of Southland Paper Mills, Lufkin, Texas, has been named a member of the water resources committee of the East Texas Chamber of Commerce. The State of Texas is so large it embodies distinct geographical and economic conditions; has four separate chambers of commerce whose work is correlated through the statewide board of directors. The commercial timber belt is in East Texas.

PRENTICE BLOEDEL, president of Bloedel, Stewart & Welch, Vancouver, B. C., has been named a member of a committee of Canadian industrial leaders to study ptans for bridging the sterling-dollar gap.

# Allis-Chalmers Appoints Three New Managers

Appointment of three new district office managers, effective July I, is announced by Allis-Chalmers' general machinery division. They are J. H. Burrus, manager of the Milwaukee district; U. E. Sandelin, Portland, Ore., district, and Stephen C. Bacon, Seattle district.

Mr. Burrus, since 1949 manager at Portland, and Texas A&M graduate, succeeds H. A. Balding, who is retiring from active management at Milwaukee. For several months Mr. Balding will act as consultant.

Mr. Sandelin has been manager of Seattle district. He is an electrical engineering graduate of Tri-State College. Mr. Bacon has been with the Seattle office since 1938. He is a graduate of the University of Washington.

### Zellerbach Resigns Government Post

J. D. Zellerbach, president, Crown Zellerbach Corp., San Francisco, and presently on leave of absence from that post, as ECA administrator in Italy, will shortly resign his government post to return to affairs of the paper manufacturing company.

Mr. Zellerbach was appointed to head ECA in Italy in 1948. In recent correspondence with Richard Shephard, executive secretary to the president of Crown Zellerbach, Mr. Zellerbach indicated his belief that his job in Italy was now finished. Mr. Shephard declared that Mr. Zellerbach's return to private business was not forced by the company's board of directors.

"Mr. Zellerbach feels that the ECA program in Italy is now a going concern," Mr. Shephard said.

Mr. Zellerbach was recently named the University of California's "Alumnus of the Year" for waging and winning "important campaigns in the cold war of ideologies" in Italy.

# J. E. Holveck, Designer of Barkers, Dies in East

Joseph E. Holveck, hydraulic engineer, widely known as designer of hydraulic log barkers and of steel de-scaling systems, died at Mountainside hospital, Montclair, N. J., May 20.

Mr. Holveck was born in Wilmington, Del., July 14, 1883. From 1901 to 1935 he was with Aldrich Pump Co., becoming a vice president of that company. He joined Worthington Pump & Machinery Corp. in 1935, as a sales engineer in Pittsburgh and was moved to the general sales offices at Harrison, N. J., in 1943.

Credited with many patents covering hydraulic applications in the steel, mining, pulp and paper, and petroleum industries, Mr. Holveck's name is particularly well known for his work on the Soundview, St. Regis and Spaulding log barking plants in the Far West.

Mr. Holveck resided in Upper Montclair, N. J., and is survived by his wife, five sons, four daughters and 28 grandchildren. Burial was at Pittsburgh.

FIRST THREE ON LEFT ARE MEN PROMOTED in past year at CHAMPION PAPER & FIBRE CO.'s Houston (Texas) division include (1 to r): Frank Ahrens, who started as Mechanical and Power Supt, when mill was built in 1936, recently appointed Mill Supt. R. (. Dick) Batz, named Asst. General Supt. of paper mill. Harold M. Marris, new Supt. of Cylinder Machine section.

Morris, new Supt. of Cylinder Machine section.

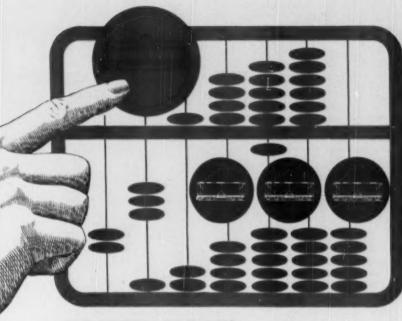
On extreme right: F. L. Rommacher, of Rommacher Paper Co., Cincinnati, Ohio, who recently made on extended tour of Southern industry during which this picture was taken by PULP & PAPER. His company specializes in industrial papers.











# ONE INSTEAD OF THREE!

ONE TON OF AMMONIA does the work of three tons of limestone when you produce wood pulp by the Ammonium Bisulphite Process. And this is only one of its many advantages to the paper industry. Among others:

ECONOMICAL CONVERSION. Present equipment and towers can be changed over to ammonia base cooking without great expense.

REDUCED RAW MATERIAL HANDLING. It takes only one man (for short periods) to unload and convert anhydrous ammonia to solution form - against three to six men to unload bulky limestone and charge towers.

INCREASED PULP PRODUCTION. According to present indications, pulp production can be increased, with screenings minimized and cooking time reduced.

LOWER MAINTENANCE. The Ammonium Bisulphite Process prevents scaling, reduces wear on pumps and holds down losses resulting from tank sludge drainage.

HEAT RECOVERY. Latest reports indicate that the heat produced in burning waste liquors will furnish the mill's entire heat requirement for evaporation and cooking.

Spencer Chemical Company, one of the nation's leading producers of ammonia, believes the many advantages of the Ammonium Bisulphite Process merit the careful study of your organization. If Spencer can assist you with information on ammonia, your request will be answered promptly -by letter, wire or personal contact.

### SPENCER CHEMICAL COMPANY

Executive and Sales Offices: Dwight Bldg., Konsas City 6, M

Pittsburg Kans. • Parson, Kans. • Chicayo, III

Menderson, Ky. • Charlestown, Ind.



# NEW ST. JOE FEATURES

# ALSO TEXAS PLANT DESCRIPTION

Not to be outdone in the vast schedule of expansion and improvement in the Southern pulp and paper industry, the St. Joe Paper Co. has successfully conducted an improvement program at its Port St. Joe, Fla., mill designed to keep that producing unit in the forefront among progressive plants in the industry.

At Port St. Joe, the pulp and paper mill enjoys an advantage accruing to only a few in the industry, a deep water site. The St. Joe Paper Co. mill has long been noted for the low chemical loss involved in the production of its 400 ton-daily kraft line and .009 capacity. The mill is located in a small West Florida port in a winter-summer vacation land setting of sun-kissed, brilliant white beaches and unsurpassed fishing.

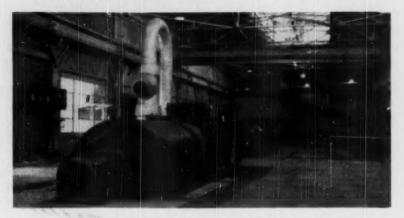
One of the features of the expansion program, and perhaps a "first" in any planning for additional capacity was the completion of a 96 by 64 foot annex to its power plant. This accommodated the installation of a new 15-stage 6000 KW General Electric turbo-generator. This unit operates at 3500 RPM, 600 LB steem pressure with exhaust at 2.5-inch ABS. With addition of this unit, the St. Joe power supply includes three turbo-generators of equal capacity, according the mill that sometimes much desired status of "surplus" power permitting close-down of a generator for over-haul.

The mill had been equipped with a battery of Oliver-United washers for its pulp but after a decade of satisfactory service it was deemed advisable to replace these with a new, and more modern set. This was done. In the new installation the instrumentation is by Bristol but with one Foxboro Stabilog consistency regulator.

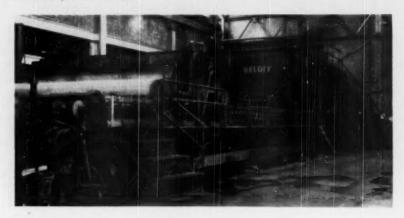
An interesting feature of the washer installation is that although they are on three levels, the inserting of an apron behind each leading down to new repulpers make the arrangement equivalent to a single level. The new Olivers are of the "Ringvalve" type.

In the stock lines ahead of the washers there are two high intensity rectangular type magnets manufactured by the Dings Magnetic Separator Co., of Milwaukee, Wis. After any extraneous metal (if any) is removed the stock goes to a No. 3 Hermann Mfg. Co. Claflin (Lancaster, O.) refiner, the performance of which since installation has proven satisfactory. The stock is moved by Goulds pumps.

Further preparation of stock is effected by four Shartle Miami No. 5 Jordans and a new installation of four 48-inch disc Sutherland refiners ahead of the ma-



AT PORT ST. JOE PAPER CO., Port St. Joe, Florida. Top view shows addition of a third 6000 KW General Electric turba-generator, which makes possible one unit reserved as "stand-by" unit. Lower view: The 213 inch Beloit Fourdrinter has now stainless steel lined Beloit headbax and Pusey & Jones secondary headbax and a Plank dendy roll—all additions.



chines. The results from this new arrangement have been pleasing.

The 215-inch Beloit Fourdrinier itself has been improved by a new stainless steel primary headbox and a Pusey & Jones secondary headbox. The secondary headbox is followed by a J. J. Plank dandy roll. The machine's job is further assisted by a newly installed Beloit felt guide with Witham head.

The Pusey & Jones secondary headbox will furnish a coating for the 125,000 annual tonnage of liner board produced at the mill. The primary headbox will provide 85 per cent of the furnish; and the secondary, 15 per cent of the furnish. The addition of the secondary headbox will permit further refining of this proportion of the furnish that constitutes the surfacing of the liner board.

A Koppers precipitator began operating last mid-summer.

### **A Progressive Management**

The St. Joe Paper Co. for the past years has proven to be a substantial factor in the economic revival of that sector of West Florida so adversely affected by the depletion of original stands of virgin pine timber. Port St. Joe itself at one time virtually achieved extinction. Edward Ball is president of the company. W. T. Edwards, vice president in charge of operations, has his office in Jacksonville. The company not only has provided the stimulus of expanding mill payrolls at Port St. Joe, but through Robert C. Brent, Jr., whose office is in Tallahassee, has poured money into woodlands resuscitation and pulp procurement. Active direction of the mill is in the hands of

# VESSEL DIVISION

# NEWS



# Before this SMITH-lined Paper Mill Digester was manufac-tured, an extensive and tured, an extensive and comprehensive testing program was completed to be sure the proper alloy lining was selected for the corrosive service. An experimental di-gester was built and a great many "cooks" were run before the final de-cision was made.





WISING A. O. SMITH MULTI-LAYER CONSTRUCTION WAS MORE ECONOMICAL than single-plate construction in the manufacture of this 72 in. dia. by 80 ft. long water scrubber, at the same time providing a safer construction.



FIELD ASSEMBLY COSTS CUT TO A MINIMUM. The SMITHway is to do the maximum amount of work possible in the shop on vessels too big to be shipped in one piece. All the shell courses on this 15 ft. dia. by 113 ft. long A. O. Smith Atmospheric Tower were tacked together in the shop to get more accurate and complete installation of the internals.



CONSISTENT QUALITY OF A. O. SMITH ELECTRODES used in the manufacture of A. O. Smith Pressure Vessels is preserved by meticulous control procedures. By means of this X-ray diffraction machine, all raw materials used in electrode coating are checked for the presence of any foreign materials or impurities.

A. O. Smith	Corporation,	Dept.	PP-750,	<b>Allweykee</b>	1, Wisconsin
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- Without abligation, send us the latest A. O. Smith Vessel Bulletine:
- ☐ V-44: Field Assembly of Pressure Vessels
  ☐ V-46: Alloy, Alloy-lined, Clad, and Glass-lined Vessels
- V-52: Multi-Layer Vessel Manufacture and Assembly

Name

Firm

City.

Harry H. Saunders, production manager, and Earl L. Hobaugh, mill superintendent.

### Converting Plant in Texas

The progressive spirit expressed in improvement of the Port St. Joe mill has too tieen restricted to that locality but also has been expressed in the establishment of a \$2,000,000 modern converting plant at Houston, Texas, and recently in the integration of a converting plant at the mill itself.

The Houston plant is located on a 37-acre site seven miles west of the city proper, on U.S. Route 290 (the Hempstead Highway) at its intersection with Post Oak road. Contract for design and supervision of construction was held by the Austin Co., Cleveland, Ohio.

Here was completed on Feb. 1, 1949, a modern brick, steel and corrugated asbestos siding a building incorporating 105,000 square feet of floor space in which there was provided modern equipment to convert about 3,000 tons monthly of liner board and corrugated sheets into corrugated boxes and liner board containers. On a 3-shift basis, this plant can handle 25 million square feet of board monthly.

The building has a monitor-type roof with windows for summer ventilation. The heating system combined fan circulation of heated air in winter and natural air draft for the summer months. Lighting equipment throughout is fluorescent. For receiving and shipping, accommodations are provided for handling seven rail cars and five trucks simultaneously, all under shelter from inclement weather. Material handling is effected through-

PERSONNEL AT ST. JOE PAPER CO.'s new Houston, Tox., Box plust (pic-

tures taken by PULP &

PAPER) TERRY W. HINOTE (loft),

Monager; W. L. VAYDA (center), General Foremon; ROBERT H. TYLER

(right), Auditor and

out the plant by two gasoline-powered Towmotors and one Elwell-Parker electric truck; plus five hand jacks. Everything is handled on pallets.

Steam for the plant is furnished by an Amesteam Generator, manufactured by the Ames Iron Works, Oswego, New York. This boiler installation is completely automatic, using natural gas for fuel, and is equipped with "Fireye" combustion control, which shuts down the entire Unit in case of flame failure. The Amesteam Generator is furnished complete and when connected to steam, water, fuel, and electric lines, and to the breeching or stack, is ready for operation. The Unit is of the modified Scotch type, is

rated at 300 HP and is designed for 150 lb. steam pressure.

The first item on the main production line is a complete Hooper corrugator unit consisting of one 78 inch facer, double backer and rotary cut off. This is equipped with bearings from Stephenson-Adamson and Reliance Elec. & Eng. Co. variable speed drive. The process here is completed with a 78-inch Langston single facer unit. Equipment includes A&B flute rolls.

This is just the beginning of an array of equipment planned to efficiently produce all items presented to the trade by this conversion plant. Other pieces of equipment include:

Two Hooper two-color presses, one of which is 35 by 79 inch and the other 50 by 103 inch.

One single color rotary color press furnished by S. & S. Corrugated Ma-

FOUR NEW SUTHERLAND REFINERS (48 in, disc) with GE motors have been installed ahead of the paper



HALF DOZEN WESTINGHOUSE generators have provide current for V-S drive for new Oliver United Weshers.



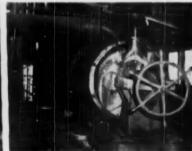
KOPPERS PRECIPITATOR installed at Part \$1. Joe, Fla., in recovery plant to achieve economies of operation.

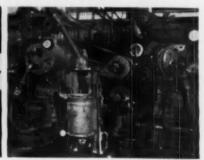


EQUIPMENT RECENTLY ADDED at \$1, Joe mill in Florida includes this Dings Magnetic Separator Co. magnet for stock line ahead of refiners. AFTER BEING DE-METALLIZED BY DINGS magnet shown at left, stock passes through this Herman Mfg. Co. No. 3 Clottin Befiner.

THE NEW BELOIT AIR-OPERATED FELT GUIDE with Withon head is shown here. This added to contribute to machine's efficient operation at Port St. Jae.







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# Versatile:

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# **Efficient:**

Produces consistently clear filtrate, reusable on showers.

# **Economical:**

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Picture shows Oliver Saveall as installed at St. Regis Paper Co., Tacama, Washington. Rubber protected surfaces, stainless steel wire decks and outlet pipes.

# Flexible:

Can handle wet breaks as well as white water without separate system. When you buy an Oliver Saveall you are getting not only highly useful equipment which has proved its worth in hundreds of installations. You are getting, also, intelligent cooperative service from highly trained and experienced filtration engineers... with paper mill experience dating back to the early twenties.

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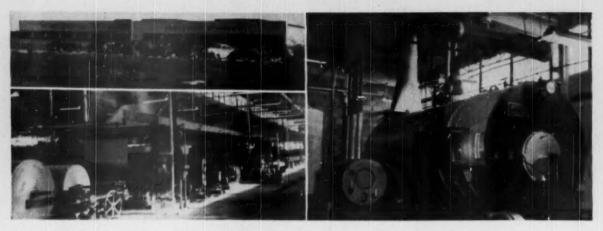
San Francisco 11, California

Orillia, Ont., Canada

Melbourne, Australia

ınc.





VIEWS AT THE NEW HOUSTON, TEX., Container Division of St. Joe Paper Co., Port St. Joe, Fie., built recently. Top left: Outside view of the \$3,000,000 plant. Lower left: Hooper Carrugater, equipped with VS electrical drive supplied by Reliance Electric & Engineering Co. of Claveland. At right: Fully automatic steam plant for the division, furnished by Amsteam Generator, manufactured by Ames Iron Works.

Ouronce, N. Y.

chinery Co., Inc. Also the following equipment from the same company: An up and down slitter of unlimited sheet size; two 115-inch slitters; one partition box slitter (23½ by 67 inches) with a single color printing unit; two automatic tapers of 80 inch width and 72 inch length; and S4S flap cutter of unlimited width.

The plant also has semi-automatic tapers and three hand tapers. It has an automatic feed folder and stitcher using Acme steel wire, furnished by Bostitch, Inc., Westerly, R. L; several automatic folders and stretchers from the same company, the No. 485 series.

Equipment includes a Bostitch Bowie automatic folder and stitcher that has run as many as 3500 units per hour; a Thompson, size 35 by 47, currung and creasing press; and, a Hooper 35 by 79-inch 2-color

press furnished by the F. X. Hooper Co., Inc., Glen Arm, Md., this unit being driven by a Reliance VS motor drive.

The Houston box plant is under the direction of Terry W. Hinote, as manager, who has been with the company since 1942. W. L. Vaydax, general foreman; Robert H. Tyler, auditor and accountant; and Lahen W. Trapp, sales manager for the division.

# TEAM OF KRAFT EXPERTS Rushes Potlatch Mill to Completion



Many industry and equipment people are marveling at the fact that this little team of four kraft industry experts and specialists, working under a veteran builder of kraft mills, President William P. Davis, are rushing toward completion this next December—without much outside help—the new kraft pulp and paper

mill of Potlatch Forests Inc. at Lewiston, Idaho.

These men are: Upper left: Roland Wilber, manager, Pulp and Paper Division; Upper right: Joseph Betts, chief en-

Lower left: O. B. Smith, resident en-

gineer;
Lower right: James Tettigrew, electrical engineer.

It is true the engineers and wood experts of the long-experienced and very important Potlatch company are lending a hand. And Ollie Duncan, a veteran start-up man in Southern mills and recently in charge of the new No. 15 at Crown Z, Camas, has joined Mr. Davis's staff as superintendent. But a tremendous part of the building and engineering job is being done by just these four, with Mr. Davis himself putting in long hours. He was former chief engineer of International's eight Southern mills.

Incidentally, the Pulp and Paper Division, has moved into new offices on the mill. They had been in the city of Lewiston main office building.

Mr. Wilber, Pennsy native, chem engineering grad of U. of West Virginia, former production manager at Crossett and manager at Southern Paperboard Corp., Savannah, started in the industry at the now extinct but famous Cheery Valley

mill in West Virginia, where many well known industry men hail from.

Joe Betts was with IP in the South, at Mobile headquarters since 1945, and was with the firm since 1933, helping Mr. Davis build several of their mills. Mr. Betts was resident at Springhill, Georgetown, Camden, Bastrop, Panama City and Moss Point while with IP.

O. B. Smith started with IP in 1934 at Panama City. Two years later he was at Georgetown, helping build that mill, now the biggest in the world. He toured on duty to several IP mills, going into the Container division, during the war. This end of IP was tremendously expanded under Mr. Davis in recent years, and Mr. Smith was on construction of new corrugating box at Springhill, La., and Wooster, Ohio, for IP.

Mr. Pettigrew, native of Florence, S. C., graduate of Duke U., was electrical engineer with IP's Southern Division from 1937-47, on construction at Georgetown, Springhill, and back to Georgetown for the semi-chemical plant and box plant built there since the war. Next two years he was electrical engineer with the IP container division at Whippany, N. J.

Others who have joined the Potlatch staff, working on the new mill, are Vernon Young, electrical engineer and son of Lou Young, chief engineer of the Potlatch sawmill division; Donald L. Johnson, U. of Idaho, graduate in electrical engineering; Charles Dalziel, who worked on construction of Potlatch's plywood plant, and Beverly King, secretary.



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U.S. Gypsum Co., Oakmont, Pa.
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Fliebburg, Mass.
The Flintkote Co., New Orleam, La.
New Haven Fulp & Board Co.
New Haven, Conn.
Eastman Kodak Co., Bochester, N.Y.
Stuberly-Clark Corp., Neenah, Wis.
St. Mary's Kraft Corp.
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San Rafael Paper Co., Mexico
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St. Regis Paper Co., Tacoma, Wash
Papierfabrik Utzenstorf, Switzerland
The Ohio Boxboard Co., Rittman, O.
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National Newsprint &
Paper Mills, Ltd., India

# ABOUT LOUIS BLOCH AND PIN DINNERS Surprise Honor for Oakley W. Dexter

The series of spring service pin dinners of the Crown Zellerbach mills up and down the Pacific Coast are worthy examples to the industry at large of a finished, workmanlike, expert and yet warm-blooded method of honoring with dignity the veteran members of an organization.

They've been going on for years and we've been going to them as guests, and in all this time, perhaps, we have missed what is really one of the best stories about them—the unusually fine job that Louis Bloch, chairman of the board, does when he hands out the pins. He did it at most mills this year, taking time out from his duties in San Francisco, despite the fact that the absence of his associate, President J. D. Zellerbach, in Rome, directing ECA, has thrown major responsibilities for the Crown Zellerbach organization upon Mr. Bloch.

It has been 57 years since Mr. Bloch started with the Crown Paper Co., as a laborer in overalls. After it became Crown-Willamette, he was the man who brought it into the C-Z merger. He is one of the few top officials in this industry, still active in the business, and able to look back to constant activity through more than the first half of the 20th century.

Just how active he still is was revealed at Port Townsend where he made a complete inspection of the mill on foot-climbing up and down ladders—and that same evening conducted the pin awards without "missing a beat." He had a written speech, but tore it up and threw it away and gave, probably, a better one. He praised the Townsend mill for its cleanliness and stressed that "quality products cannot be made except by men with orderly minds and mills that are clean and neat."

For every pin winner, he had a quip and a friendly individual greeting. Just as an example of one of his cracks that brought down the house: One pin winner was described as having a hobby of collecting fossils. "Don't you look at me that way!" flashed back Mr. Bloch.

Mr. Bloch, as chief instigator; Resident Manager Leo Ziel and Billy Welsh, executive assistant, contrived to woo Oakley W. Dexter, veteran director of purchases of C-Z organization and now assistant vice president, from his offices in Seattle to the scene of the dinner, the Chevy Chase resort on Discovery Bay, without letting him know he was going to get a 35-year pin.

It was a complete surprise when Mr. Dexter stood up to receive his award from the man who hired him as errand boy on March 21, 1915 in San Francisco. They celebrate the same anniversary—Mr. Bloch having started in the San Francisco company on March 21, 1894.



AT CAMAS, WEST LINN, LOS ANGELES and PORT TOWNSEND—these views reflect happy faces of votoran employes in those Pocific Coast C-Z mills honored for long service. There's genuine surprise in one of the two pictures of gentlemen or upper right—which one do you think shows him speckless and estenished? Top views show W. OAKLEY DEXTER, Assistant Vice Pres., Crown Z. Scottle, and President of its subsidiary, International Pulpuroud Supply Ca., just before and just at the moment he received a 35-year service pin from his long-time friend and mentor, LOUIS BLOCH, Board Chairmon. In left view, between those, is LEO ZIEL, Res. Mgr., Part Townsend, where presentation was made.

Second row (I. to r.): ELLEN P. SCOTT, Secretary to Div. Mgr. L. B. Remmen, Lee Angeles (35-yr. pin); CLAUDE D. MAULDING, Tour Boss, Part Townsend (30-yr.); J. B. RAUCH, Yard Supt., West Line (45-yr.). Lower row—a Cames group (I. to r.): JACK DAVIDSON, Paper Machinetender; QUS LOKENZ, Asst. Supt. of Tiesue Machines: WILLIAM LINDER, Machinetender; HARLAN WILLIS, Acid Maker (all 33 years); Vice Pres. F. N. YOUNOMAN and E. A. (MIKE) PAUL, Personnel Mgr.

### Oakley Dexter's Career

Mr. Dexter was born in San Francisco, went through night high school and there ended his formal education. It wasn't long before he became purchasing clerk; then he went to the Floriston. Calif., sulfite pulp mill as bookkeeper; then beck to San Francisco as amistant pa. Then for a while he was manager there of Pacific Coast Supply Co., returning to Crown Zellerbach as purchasing agent and in 1940 was given the title director of purchases for the corporation.

War came and he was loaned to the War Production Board as assistant director of purchases, then as chief of WPB's safety and technical division. Over to the Navy Department he then moved, to represent WPB, and finally to be coordinator of conservation and chief of the conservation division of the Navy.

In 1943 he returned to his company in San Francisco and that year moved to Seattle as assistant vice president. Just six months ago he was also made president of the company subsidiary. International Pulpwood Supply Co., which operated chip plants and contracts for chip supplies for the mills. Mr. and Mrs. Dexter have a son and daughter, both married, and they are grandparents twice.

A 30-year pin at Townsend went to Claude D. Maulding, tour boss, who was born in Clearwater. Neb., started at Camas, then to Ocean Falls and who has been at Townsend since

Bernard T. Mullaney, now in Portland, Ors, as director of specialized personnel placement for the corporation, and former personnel and safety director at Townsend, got a 20-year pin. He was hired as a school boy, worked his way through Seattle College and now devotes his time to screening employe prospects from all the coast colleges and universities. Other 20's were for John Olsen, J. P. Marlow, C. D. Van Volkenburg, Phil Simpcoe, Fred Tietzel, G. H. Swanson, B. L. Carr, Anton Cable and Jas. McKee.

The next day—and not showing a sign of wear or tear—Mr. Bloch went through the paces all over again at the Port Angelea mill. Flu temporarily laid low the top winner there, Charles L. Spicer, paper mill tour boss, who got a 40-year pin. He is father of Louis Spicer, mill purchasing agent.

### LATE NEWS BRIEFS

(Continued from Page 26)

**Must Start Edmonton Newsprint Mill** 

The newsprint mill planned by R. O. Sweezey of Montreal, president of Edmonton Pulp and Paper Mills, for Alberta, must be under construction by July 1 and completed by Dec. 21, 1951, according to terms of agreement signed by M. C. Sweezey and Alberta government. Mr. Sweezey stated "everything is being advanced without a hitch"; project to be completed in one year.

**Alcohol Plant at Capacity** 

Commercial Alcohols' industrial alcohol plant, operated at Gatineau, Que., as part of integrated production setup of Canadian International Paper Co., is now running close to 2,000,000 gallons a year capacity, according to officials. Year ago plant was operating at 50%. Company operates magnesia insulation plant in conjunction with alcohol plant. Got into production four months ago.

**Newsprint Hearings Begun** 

True to his threat last Jan. 3 Congressman Emanuel Cellars (D) of New York sent representatives into paper centers to demand files of several organizations preparatory to Washington hearings which began June 19. Plainly the Representative and his committee intend to stage a full-scale show from pulpwood to finished newsprint rolls.

As has been plain since the first quarter, several Scandinavian mills, and a few Canadian (although not all) hoped for higher pulp prices in the third quarter of 1950. In June a few announced some rises, and for several weeks paper buying had been on the increase, in some cases as a hedge against higher paper prices. As this issue went to press rumors were flying as to whether U. S. producers would follow or hold firm, but nobody had publicly announced.

**Leaders Testify on Tariffs** 

On June 7th leading representatives of consumer mills and integrated mills testified on paper tariffs before the Reciprocity Information Committee of the State Department and other agencies of the government. George Olmsted, Jr., president of S. D. Warren Co. and head of APPA, represented the integrated mills, and E. W. Tinker, executive secretary of APPA was on deck for the national picture in all phases, aided by Robert Canfield as counsel. Representing non-integrated mills were William Beckett, vice-president of Beckett Paper Co. and chief of the American Pulp Consumers; Robert Evans, Riegel executive; Karl Clauson, secretary of the consumers group. Argument of both was bent toward longer government study periods between actions on paper schedules so that both industry and government might have facts on which to really determine effects on U.S. industry. The non-integrated mill executives stressed the effect of low tariffs on both the supply and price of pulp, hence of paper made here. State Department had already announced for September 28th negotiations at Torquay, England, with Denmark, Dominican Republic, India, Indonesia, Italy and Sweden, the six countries which are additions to 17 others with which (last April) the State Department avowed intentions to consider tariff concessions on 130 groups of commodities including important kinds of paper. Competent opinion: the expert testimony, aided by charts and facts, may have had a slowing effect for study of results of tariffs already enacted.

CHARLES W. SURPRISON has been named foreman of the multi-stage kraft bleachery at Nekoosa-Edwards Paper Co. in a series of advancements, announced recently by the company. He has been with Nekoosa 20 years.

CHATTEN HAYNES, assistant manager of International Paper Co.'s mill at Camden, Ark., has been named manager at Moss Point, Miss. A graduate in 1933 in chemistry from University of Arkansas, he started with the company at Moss Point and was transferred to Springhill in 1938, afterwards to Camden.

STANLEY RINGHEIM, purchasing agent, Central Engineering Division of Crown Zellerbach Corp., Seattle, has been signally honored by being elected District 1 Vice President of the National Association of Purchasing Agents. District 1 takes in all territory west of the Rockies, including Hawaii.

WALTER A. SALMONSON, of 2514 N. E. 59th Ave., Portland 13, Ore., now represents DeZurik Shower Co. and Cheney Bigelow in all three Pacific Coast states, the California territory having recently been added to his region.



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U. M. DICKEY, president of Soundview Pulp Co., Everett, Wash., was the host to 20,000 farm-minded persons in Washington state who spent a day recently on his 500-acre farm near Redmond, Wash., to see a "farm face-lifting demonstration." Actually it was a show sponsored by county agricultural groups and the state governor came to speak; a lunch was served, and \$200,000 worth of farm machinery ran virtually wild over the place digging ditches, postholes, etc. Some joking report guessed Mr. Dickey would have his farm back in shape in about 6 months, but probably wouldn't be able to collect all the cigaret butts and candy wrap by then.

ROY FERGUSON, who is assistant to management and former groundwood superintendent at the Ocean Falls, B. C., mill of Pecific Mills Ltd., says he has never been confused with widely known vice president of the American Paper and Pulp Association of the same name, who happens to be president of St. Regis Paper Co. and lives in New York. The Ocean Falls Roy Ferguson has a mustache.

G. L. DuBOIS has been appointed Southern representative for Kimberly-Clark Corp., according to A. G. Sharp, general sales manager. Headquarters will continue in Atlanta, Ga.

JOHN KENNEDY, 28 years with American Writing Paper Corp., Holyoke, Mass., joined Pacific Paperboard Co., Longview, Wash., in March as manufacturing consultant.

ARTHUR NELSON, after 18 years as manager of coarse paper with the Ingram Paper Co., Los Angeles, has resigned. He was succeeded by Ted Davis of the same firm.

JOHN P. GERHAUSER, Appleton Wire Works technical director, talked on "Fourdrinier Wires" at a recent Lake State TAPPI meeting, and B. F. Shema, Institute of Paper Chemistry, talked on "Microbiological Degradation of Woolen Felts."

F. S. HOMAD, vice president and treasurer of Homad Services, Ltd., Montreal, has announced that he is engineering sales representative in Canada for the Stacomizer press. Stacom Industries, Long Island City, N.Y., confirms the appointment, adding that the equipment for Canada will be manufactured there, while Farrell-Birmingham, Ansonia, Conn., will build the Stacomizer for U. S. installations.

LOU CALDER, president of Perkins-Goodwin Co., New York, was awarded honorary degree of doctor of humanities by Austin College, Sherman, Tex. Austin, oldest college in the Lone Star State, bestowed the honor for "his contribution to the development of Southland Paper Mills at Lufkin and the whole South industrially,"

HUBERT LEWIS, an employe with Nekoosa-Edwards Paper Co. for 29 years, retired recently. He was sulfate liquor maker.

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# HANSEL RING BARKER

# **EFFECTIVE WATER SEAL IS FEATURE**

A new Hansel ring-type of hydraulic log barker serving Bloedel, Stewart & Welch, Ltd., at Port Alberni, B. C., and recently built for the Weyerhaeuser mill at Springfield, Ore., has aroused widespread interest because of its successful performance and the novel principles involved in its design and operation. PULF & PAPER herewith presents the first detailed description of the barker to be published.

Bloedel, Stewart & Welch, one of the biggest timber-using industries in British Columbia, operates at Port Alberni a 200-ton kraft pulp mill, and slabs, edgings and other waste from the adjacent saw-mill provide the chips. Since the handling and barking of slabs is often costly and inefficient, the company decided to adapt new developments in hydraulic barking to saw logs, to eliminate slab barking. This presented a new problem because in general saw logs are from 32 to 40 ft. long, whereas pulp logs may be as short as derred.

A design of barker now known is the ring type, in which the log passes through a rotating ring carrying nozzles, was thought to offer a promising solution. Tentative designs were drawn up by Howard A. Simons, consulting engineer who designed the Bloedel, Stewart & Welch pulp mill, and Prentice Bloedel, president of the company, before it was learned that Frank Swift of the Crown Zellerbach Corp. had already constructed a machine along these lines. Pooling of work was arranged.

James Dunbar, inventor of the Dunbar screen and Dunbar chipper, was employed to complete the design and supervise construction of a machine which would have a 36-in, diameter bore. Detailed designs were undertaken at once and in May 1947 an order was given to Vancouver Iron Works, of Vancouver, to construct one machine.

Later, Sydney Hansel, a Vancouver engineer, contributed some effective refinements and important among them was an effective seal, using a micarta ring, described in this following report:

### **Description of Machine**

Essentially the machine is simple, consisting of a rotor, which carries the nozzles and which rotates between seals in a stationary member to which the water under high pressure is supplied. The seals must be designed to confine water under pressure of from 1000 lbs. per square inch to 1400, and as might be expected, this feature of the design was one of the most difficult. Mr. Swift's previous work was of greatest importance

Hansel Barkers Ordered For Two Other Kraft Mills

The engineering of hydraulic log barkers in the Far West has advanced rapidly since the Weyerhaeuser's first chain type at Everett, Wash., and Crown Zellerbach's lathe-type at Port Townsend, Wash., led the parade during war years. Many improvements have been made. The Hansel barker, described in this article has been adopted by two other mills of Weyerhaeuser Timber Co., and the Lewiston, Idaho, kraft mill being built by Potlatch Forests Inc. A 70-inch Hansel barker recently was completed in Washington Iron Works, Seattle, for Springfield, and it is building two others for Potlatch.

Sydney Hansel (left) head of Hansel Engineering, Inc., Vancouver, B. C., and Seattle, whose hydraulic log barking refinements have won acceptance in the Pacific Northwest, is an Australian who went to England for his education and then to the west coast because he recognized the engineering opportunities afforded by the forest industries.

A graduate of London University, where he studied aeronautical and mechanical engineering. Mr. Hausel first engaged in work on aircraft and naval vessels, especially in hydraulic and aerodynamic development. He established his own firm, Hansel Components, Ltd., at Portsmouth, specializing in aeronautical and mechanical engineering, and during the war carried out torpedo installations.

Three years ago he went to Vancouver, B. C., and organized Hansel Engineering Co. Realizing that his previous experience in hydraulic and mechanical engineering familiarized him with the problems being faced in design of hydraulic barkers for the sawmill and pulp industries, he has applied himself intensively to that field.

Hansel Engineering Inc., recently opened an office in Seattle at 1500 Westlake Avenue N., where Mr. Hansel's associate, Denis Riches, is



THIS PICTURE OF THE HANSEL MYDRAULIC LOG RING-TYPE BARKER—taken before installation—gives a good idea of its design and size.

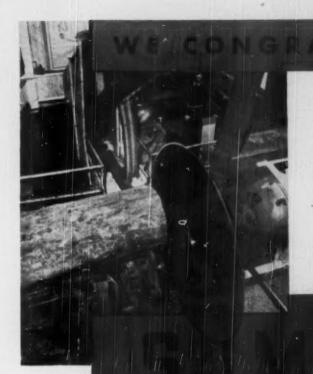
in this element and the present designs have developed directly from his. The rotor is driven by multiple V-belts from an electric motor operating through an hydraulic coupling. This assembly is mounted in a cradle so that the bore may be raised or lowered or moved horizontally in either direction in order to accommodate unevennesses in the logs under treatment. A joy-stick type of valve for controlling these motions is located in the operator's cubicle.

The 60 inch barker illustrated is typical of the latest design by the Hansel Engineering Co., licensees under Crown Zellerbach and B. S. & W. patents. The rotor carries four nozzles normally designed to handle about 800 g.p.m. at 1200 lbs. pressure. The ring rotates at approximately 75 r.p.m. and is driven by a 50 h.p. motor. Normal operating horse power for both the 60 and 36-in. machines is approximately 20 h.p. The 36-in. barker has recently been redesigned by Hansel Engineering Co. to incorporate the latest features evolved to date. This machine handles about the same gallonage at the same pressures but rotates at a speed of 175 r.p.m. and is driven by a 40

As installed at Port Alberni, the barkers are placed on either side of the main log haul which runs straight through the barker house to the sawmill log deck. The logs are kicked out of the main log haul on to transfers to one barker or the other. The logs going through the 60-in. barker are brought back to the main log haul and loaded into it for movement to the sawmill after barking. Logs passing through the 36-in. barker may be kicked out in either one of two directions. One back to the main log haul, in which case the log will go to the sawmill, or alternatively, to a second transfer from which a chain carries the log to a 110-in. whole log chipper. The barkers are installed in metal enclosures to which are attached the operators' cubicles. The operator loads the logs to be barked on to the in-feed rolls, control the speed and direction of the rolls and the position of the barker as well as the pressure on the nozzles, and so forth.

Water is supplied through a 1200 h.p. Bingham Pump Co. (Portland, Ore.) steam turbine pump direct to a Taylor Motorsteel even-action diaphragm valve. From this valve the control passes to the barker house and is finally connected to the barker by Goodrich multiple high pressure hose. Controls for these features were worked out in conjunction with the technical assistance of Thomas W. Mackay & Son, Vancouver, B.C.

The ring is driven by a totally inclosed



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175" 4-Knife Round Log Oupper: 84" 6-Knife Oupper Special Oupper Feeding Devices Bellingham Type Round Log Barker Oup Shaker Screens—Oup Feeders Motor Driven Drag Saw 96" Log Deck Cut-OH Saw Log Dogging Jaw No-Man Log Carriage—Carriage Buffers Shot-Gun Carriage—Carriage Buffers Shot-Gun Carriage Feed Log Louders, Nigger, Turner, Kickers, Transfers, Rolls,

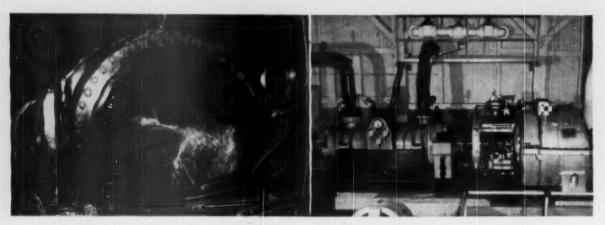
Conveyors--and ALL other deck

Transmission equipment.

An important section of the wood room, which at Antioch is completely SUMNER-equipped, is the 96" Log Deck Cut-Off Saw, the Dogging Jaws, and the 10' Drag Saw illustrated above.

Detailed information on the machinery listed at the left, and all other pulp, paper and board mill equipment manufactured in our Everett plant, will be gladly furnished on request.

SUMNER WORKS
EVERETT WASHINGTON



HERE'S 60-INCH HANSEL BING-TYPE HYDRAULIC LOG BARKER AT PORT ALBERNI, B. C., mill of Bloodel, Stewart & Welch Co. Similar barker was recently built for Springfield mill of Weyerhoeuser Timber Co. Two others oredered for Idoho mill. Picture shows machine only purtly in use to facilitate photography.

WATER FOR THE HANSEL HYDRAULIC BARKER at Bloedel mill is supplied through a 1200 hp. Bingham Pump Co. (Portland, Ore.) custom-built steam turbine driven pump, shown here, direct to even-action disphragm value.

electric motor connected to a Western Gear reducer by a Twin Disc hydraulic coupling. Two pulleys transmit the power to the rotor and the barker by multiple V-link belts. This arrangement provides excellent starting characteristics and relieves the drive of shock in case a log jams the motor.

According to Bloedel mill officials, operation of the present designs is highly satisfactory. Maintenance is proving to be low in spite of the difficult sealing problem originally encountered. Current experience indicates that a set of seals has a life in excess of 1000 hours before requiring reconditioning. The reconditioning expense is the only important item of maintenance encountered since correcting one or two structural weaknesses which developed in the earlier designs. Actual measurements of efficiencies have not been taken and it is, therefore, impossible to report on capacities of the machines, but there is every indication that this type of machine is an efficient de-barking instrument.

A feature of hydraulic barking that has proven to be of some importance is the reduction of saw maintenance due to the elimination of the dirt and gravel in the bark. Saws stay sharp longer and this also results in additional production.

### An Effective Seal Developed

One of the principal points of interest in the development of the Hansel barker has been establishing an effective seal between the rotating rotor and the stator. This seal consists of a stationary ring rotating on a film of lubricating water on a micarta ring on the rotor. This lubricating film involves a water consumption of approximately six gallons per minute and serves also to lubricate the main bearings and the thrust bearings.

Among the advantages of the Hanseldesigned barker is the fact that as there is no mechanism below the barker there is no bark disposal problem or maintee nance difficulty on that account. Another point is that owing to the horizontal and vertical movement irregular logs that are badly bowed or with stumps on them can be barked efficiently without slowing down the operation.

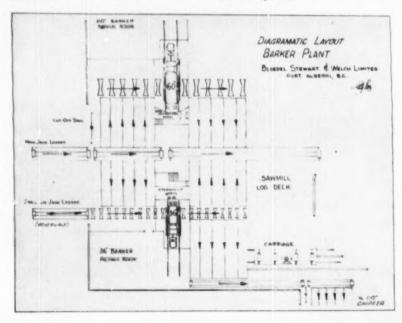
The Hansel Engineering Co. of Vancouver, B. C., and Hansel Engineering Co., Inc., Seattle, who have been associated in the design of this type of barker since the 60-in. size was put in hand, have been granted manufacturing rights by Crown Zellerbach Corp. and Bloedel, Stewart & Welch. Castings and machinery for new barkers of the Hansel for Oregon and Idaho mills have, and are, being done by Washington Iron Works, Seattle.

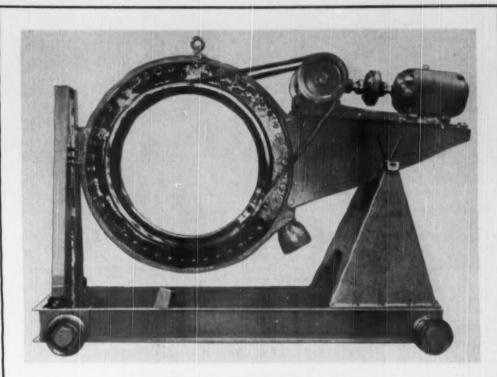
The Hansel firm has developed a new type of mounting in which the barker is hung from above. This suspended type has special advantages in eliminating all obstructions on which bark might accumulate.

### Clark and Vicario Move

In May the well known pulp and paper engineering firm of Clark and Vicario moved from Third Avenue in New York City to new offices in Bronxville, N. Y. Only 30 minutes from Manhattan when they need to go there for business, they find the new location much better for serving the industry, the partners state.

In the same offices is located headquarters for the Rotareaed Corp. of which William Hickey is president, and with which James Smith and Clark and Vicario are associated as stockholders, the latter being representatives as well. "Rotareaed" is "deaerator" spelled backwards and with an important and successful installation behind them, the two organizations are predicting great things for this new development.





# THE 1950 HYDRAULIC BARKER

Illustrated in the photograph above is a representative example of one of our hydraulic barkers. These machines are made in sizes to suit every requirement. Our small high speed barker will bark logs from 3" to 10" in diameter and the largest machine will bark logs from 10" to 74" in diameter, and there are intermediate sizes.

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All across the North American continent, north to south and east to west, the industry is improving weedlands technics and introducing large scale conservation, reforestation and mechanization.

# GROWING TIMBER EFFICIENTLY

By Charles A. Connaughton
Director, Southern Forest Experiment Station, New Orleans

(An address delivered before Southern Pine Association in New Orleans on April 19, 1950)

Before timber can be logged and milled, it must be profitably grown to a merchantable size. In fact, the effects and values of the most efficient machinery and men in the world to cut and haul logs, the very best mills to saw the logs into lumber, and highest possible skill in selling are all jeopardized if efficiency in growing the crop is lacking. It is certainly fitting, therefore, to direct attention briefly to efficiency in growing the crop.

I won't dwell, therefore, on the obvious fact that forestry pays, or on some of the prime essentials such as the need for fire protection.

In a nutshell, the job of efficient timber growing is to handle the stand so that at all times during its life the land or growing space is fully utilized, at the same time maintaining the highest possible rate of growth commensurate with production of a high-quality product. This sounds simple enough. Actually, it is not too difficult; but it takes real skill, effort, and experience to make the many decisions that growing the crop will require.

To illustrate, let's start by taking a condition widely represented in our Southern woods, namely a stand of second-growth timber generally somewhat understocked and needing an improvement cut. What trees should make up this cut? As the stand is below its potential, it is desirable to cut less than the growth in order to build up the capital upon which future growth will accrue. However, there are poor risk trees that will not live until the stand is cut over again; there are the dense clumps of trees that need thinning; there are diseased trees and big spreading, orchard-type trees that are taking up more space than they should; and there are trees that are just simply financially mature. The cut in the main should come from these classes of trees. It is not difficult to make the proper selections once it is decided when the next cut should be made, but all too often trees are being cut when they

are still too small from the standpoint of efficient timber growing.

I say this based on evidence from a survey of a large area in the Southern pine belt in 1948. This survey showed that 91 per cent of the lumber produced in the area in 1948 was cut from logs 15 inches in diameter or less. A third of the lumber was cut from logs 9 inches or less. Some of these logs came from the upper part of large trees, but many of them must have come from small trees. From the standpoint of good forestry, some of these small trees should have been cut, but likely many were cut when they were earning 10 to 12 per cent interest per year. For example, when a thrifty loblolly pine on a good site is 10 inches in diameter, it may easily be increasing in value at the rate of 12 to 14 per cent annually. At 11 inches in diameter, the increase will probably drop to 10 to 12 per cent, and at 15 inches, the increase may still be as much as 7 per cent a year. These are high rates of interest that are pretty hard to beat. As the tree grows larger, the annual percentage of increase gets progressively smaller. Finally the time is reached when the value of the annual growth and quality increment, expressed as a percentage of the capital value of the tree, reaches a point where it no longer exceeds the rate of interest which could be realized from alternate investments. In brief, when the tree quits earning or growing at a rate which exceeds the rate of earning of the value of the stumpage if placed in alternative investments, it is financially mature. Unless there are other considerations involved, such as holding the tree for seed production it is now time to cut it.

In a recent study, a method of determining financial maturity as related to tree size was worked out. It was found that if 4 per cent is considered the point at which alternate investments become attractive, that high-grade loblolly pine growing on good sites might be financially mature at 24 inches in diameter breast height. The higher the discount

rate or lower the quality or growth rate of the tree, the lower the diameter will be when financial maturity is reached. For example, when all logs in a tree are rough, the diameter of the tree at financial maturity might drop to 16 inches. Although the exact diameter will vary for different operations and with different growing capacity of the land, the same method of calculating it can be used under most circumstances. An analysis of this kind as a guide to management is certainly a part of carrying out an efficient timber-growing job. Failure to recognize the features it embraces means inefficiency, regardless of whether the operation as a whole is profitable or not. **Growing Stock** 

So much for the individual tree, how about a group of trees or how much volume in growing stock per acre should be carried? In short, what amount of forest capital will yield the maximum return? This is going to vary widely for different conditions. There is a point, however, and it can be determined or closely approximated by appropriate analysis which should be used as a goal to shoot at in maintenance of growing stock. Either more or less timber than this means that the most efficient methods are not in use. Why not, therefore, endeavor to set up a standard and work toward it?

Because the most efficient volume per acre of growing stock will vary so greatly, any suggested figures may not mean much. However, we have recently figured that in a many-aged stand of loblolly pine on good sites a growing stock should be maintained of about 9,000 board feet per acre, Doyle scale, at the beginning, or 12,000 board feet at the end of a 5-year cutting cycle. Somewhat lower volumes are recommended and successfully used by others. For even-aged stands, either natural or old fields, the desirable volume at the time of the final harvest cut may be 20,000 to 30,000 board feet per acre. I am not concerned here, however, with what the exact figure is. Instead, I want to emphasize that this is



Corco fairleads serve wire rope and protect winch cases against line cuts. Fairlead assembly can be readily attached or removed.

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something that is subject to determination within a reasonable range, and efficiency in the wood will be enhanced if it is done and management goal established accordingly.

### Hardwood Control

So much for tree size and stand volume, let's look briefly at a few other forestry features. One in which there is wide interest and much activity at present is concerned with hardwood control.

There are many acres in the South on which the excellent pine stands have been supplanted by low-grade hardwoods. In the constal region, we have the scrub oak problem on former longleaf-slash pine lands; and in the interior, the mixed hardwood competition with loblolly and shortleaf. Where natural seed sources are not adequate, planting will be necessary to restore the pine. Where adequate natural seed is available, planting is no problem; but in either case the hardwood competition must be reduced before the pine crop can be assured. This job can be and is being done in many different ways, and I'll cite only a couple of instances

First, consider the scrub oak stands so common on many of our longleaf sites where planting is necessary. An efficient approach to this problem might involve as a first step the use of a carefully controlled fire. This will remove the rough, prepare the planting site, and kill the smaller hardwoods. Then planting can proceed, often by machine. Studies have shown, however, that the larger hardwoods should be killed by girdling or poisoning about the time of planting, or very shortly thereafter. If this release is not obtained promptly, both survival and growth suffer.

In one study where loblolly pine was planted on scrub oak sites, the survival after 2 years was # per cent and total height 2.3 feet on was so per cent and total neight active the land where the overtopping hardwoods were killed immediately after planting. On adjoining areas, where overtopping hardwoods were not killed until 1 and 2 years after planting. both survival and height growth dropped. Where the acrub oak was not killed until the end of the second year, both survival and growth were only about half as good as where the scrub oak was killed at planting time. Incidentally, trees planted in scrub oak stands where the hardwood overstory was killed withstood summer drought better than trees plants

stood summer drought better than trees planted in adjoining open grass areas. Although the cost of reclaiming the scrub oak stands is higher than that of planting open areas, the greater chance of success on the former tends to compensate. Any place where there is an inadequate stock-

ing of natural seedlings and no seed trees, the job is about the same—fire, planting, and poisoning and girdling. Where there are sufficient seed trees but no seedlings, planting can be omitted if the larger, worthless hardwoods are girdled or poisoned and five probably used to kill the hardwood brush. We still have a lot to learn about the use of fire for this purpose, but obviously if it is used there should be as little time as possible between the burn and a good seedfall.

Where there are a large number of seedlings established but unable to get through the hardwood overstory, fire cannot be used without destroying the pine. Here some mechanical or chemical methods of hardwood control must be used, with the choice depending mainly on omical procedure which will do a good job. The question of how much effort



AMONG THOSE AT PEORIA PULPWOOD MEETING. Top group shows paper mill men und associates, in

cluding APA afficials:
Tap raw, (I. to r.); W. S. Bramley, American Pulp Association, New York City; Lester Hillberg, Manising Paper Ca., Munising, Mish.; Ass Allhiser, Marathon Corp., Rethschild, Wis., and Guy Lyman, Minnesota & Ontorio Paper Ca., International Falls, Minn.
Second raw (I. to r.); B. G. Buell, Northorn Paper Mills, Green Bay, Wis.; E. J. Anderson, Marathon Corp., Houghton, Mich.; R. D. Suller, Consolidated Water Power & Paper Ca., Wisconsin Rupids, Wis.; E. R. Edgar, Wm. Benifas Lamber Co., Marquotte, Mich.
Group below (I. to r.); C. Z. Holmes, Hyster Co., Peorlo, III; R. D. Evans, Caterpillar Tractor Co.; Ralph Bradley, Caterpillar; E. E. Hammann, Caterpillar; W. C. Burgy, Caterpillar; W. E. McCraw, Logging Representative, Sales Dev. Div., Caterpillar, and Joseph Margan, Hyster Co.

# Lake States APA Section **Meets in Peoria Plant**

The Lake States Technical Section of the American Pulpwood Association held its spring meeting May 3-4 at Peoria, Ill., where Caterpillar Tractor Co. was host, and assisted in the program,

Lunch was served in the Caterpillar cafeteria and meetings were in the tractor firm's conference rooms. On May 3. Caterpillar entertained the pulpwood men at dinner at one of the hotels.

Meetings were under chairmanship of R. D. Salter, Consolidated W. P. & Paper Co. In addition to the APA business session, Caterpillar and Hyster representatives discussed operation and maintenance and development of mechanical equipment in logging.

and expense is justified to prevent sprouting always arises in connection with this work. Recently, studies have shown that where pine seedlings are at least 3 feet tall when they are released there is little danger of resuppres by sprouts and grass. In many situations when the seedlings being released are less than 3 feet tall, the larger trees should be girdled, but some method, probably poison, should be used in removing the worthless hardwoods 9 inches in diameter and lower, if trouble from sprouting is anticipated. Regardless of the technics used, low-grade hardwood control offers real opportunity for big returns on the

### Management of Well-Stocked **Young Stands**

As we have many well-stocked young stands South-wide, I'd like to make a special point in reference to their management. In any stand, of course, competition tends to get pro gressively stronger as the trees close in on each other and vie for the limited space. Some competition is desired in efficient timber producon, as it improves quality of the fir trees by promoting natural pruning and holding the growth within reasonable bounds. competition, though, can be undesirable, and too many trees per acre as poor and in-efficient as too few. If a stand is fully stocked, thinning and improvement cutting should be done soon after the first merchantable cut can be made. Usually the sooner this cut can be made in the life of a stand the better, because it gives a chance to reduce the poorly formed. damaged, and diseased individuals in favor of the quality trees reserved for future growth. Further, it means removing at a profit a volume of wood that would normally die and be lost as the stand gets older.

We have not done much or very strongly considered quality control in our forestry, but efficient production for the competitive markets of the future may demand it. In any event, we can do something about it, though it requires considerable skill and intensive man-agement. Operators know best what average rate of growth—that is, the best number of growth rings per inch—results in the highest quality and value products to them. The main point here is that trees can be grown to approximate this general specification by regulating the density of stand under skilled and efent management.

During the life of the even-aged stands I mind, 8 or 10 intermediate cuts may profitably be made, each time reducing the number of trees as the stand gets older and larger. How much to cut at any one time varies greatly with conditions. There are some guides available, though, to aid in doing this efficiently. At the risk of being too obvious, we can say, in general, that the stand treat-ment at any one time should take out sufficient trees so that those remaining will have enough room to grow at a desired rate until the next cut is planned. The more frequently the cut can be made, the more intensive the manage-

If cutting is too infrequent or too light, particularly in stands older than 30 years, growth will reduce yields and income. Further,

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\*Diesel-Electric Locumotive Crune Patent No. 2083460. Touch Control Patent No. 2370856.





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management which fails to keep trees growing at a fairly uniform rate results in lumber of variable density that is difficult to season and manufacture into a high-quality product. maintain a uniform growth rate, as well as to ochieve natural pruning, it may be desirable in young stands to restrict growth somewhat by maintaining a high or competitive stocking. Gradually, this competition can be reduced as the normal vitality of the tree declines with

Source of Seed

One more point—it's not so important in the aggregate, yet it touches most forest owners. I have reference to the importance of source of seed in selecting trees for planting. We know that before the trees are planted, it is going to pay to consider carefully where the tree s came from because of the importance of this factor to future growth and yield. We know, also, that too often no attention is paid to this

ben seedlings are obtained. The oldest local study we have on this is a 22-year-old loblolly pine plantation in Louis iana. Four plantations were made in a single year; one with local seed, the rest with seed from other southern states. After 22 years, trees grown from local seed have produced a stand with between two to three times the volume of stands grown from seed collected elsewhere Furthermore, seed from at least one source appeared to be particularly susceptible to disease when planted in Louisiana. We do not know what will happen in the future to these We do not comparisons, nor what would happen in other localities, but certainly for the time being efficient practice dictates that the planter insist on enjoying the hereditary advantage of seed-lings grown from local seed sources, unless a special situation prevents it. It is just an illustration of how attention can be directed at efficiency in growing the crop.

Conclusions

In closing, I realize I have left far more

unsaid than I have said. In some respects, the few points that have been discussed were versimplified and overgeneralized. done purposely, in order to focus attention on the one main point I want to make, namely that there is an efficient, orderly approach to growing a timber crop. Hit-and-miss methods. no matter how good, are not necessary or de-

In the main, the principles mentioned apply equally well to all stands and lands, whether natural or planted. Natural stands, however, are generally more complex, and the problems more varied. Still it's the same job, namely, to get a satisfactory stand of seedlings established and then bring the crop through to maturity in a manner that will insure maximum return out depleting the soil. Whether the stand should be managed on an even or all-aged basis, how much time should elapse between cuts on a given area, the method of cutting to insure quick and adequate reproduction, a questions that cannot be answered here. In fact, forest research does not have final answers to many questions of this kind. However, there is pertinent information, some of it only pre-liminary, on most problems to be faced. Full use of this information is essential to efficiency in the woods.

It is granted that efficiency in growing the crop is not so easy to evaluate, because in managing a forest we deal with a complexity of living things; the whole and its parts react distinctively, and sometimes unpredictably, to their environment. This means that all actions must be analyzed frequently and tempered and must be analyzed frequency and tempered and modified as judgment dictates. There are broad patterns and principles, though, and some de-tails, too, that are proven applicable and sound. These are the guides that can be used to formulate efficient management practices and to judge whether growing the crop measures up in efficiency with other phases of the opera-tion. Your full use of these guides is strongly

# TO USE LODGEPOLE PINE

St. Helens Pulp & Paper Co., St. Helens, Ore., has purchased 40,000 acres of lodgepole pine timberland in south-central Oregon, in vicinity of Chemult. According to Max R. Oberdorfer, Jr., vice president and assistant manager of the company, this timber was obtained as a reserve supply of wood for the pulp mill operations.

Although the species has been harvested in areas tributary to the Lake States mills, lodgepole pine has not been looked upon by Pacific Coast industry as pulping species. One of the important limiting factors is the excessive (and increasing) freight-rate costs for transporting from woods to the mills. Logging costs also have been high. It is anticipated these costs can be reduced.

Already the company has purchased about 2,000 cords of lodgepole pine, in the area south of Bend. As yet the species has not been used in the kraft mill, but with completion of a conveyor system at the mill this pine wood will be pulped.

According to Brice L. Hammack, forester of St. Helens Pulp & Paper Co., a study was made of the contract logging of this pine already harvested, to ascertain an economical harvesting method. It was found that mechanization with suitable equipment practically doubled output. He told PULP & PAPER it is tentatively planned to carry on the first cuts in the company's own stand on an experimental basis, to develop optimum means and methods and also the best management program.

The timber is practically in a solid block, bounded chiefly by U. S. Forest Service on three sides and by Klamath Indian Reservation on the south. The stands average about nine cords of wood per acre.

Pulping this timber will result in higher utilization of the stand and reduce considerably the amount of wood left on ground after harvesting, thus eliminating need for burning to reduce fire hazards caused by excessive amount of wood remaining on the ground.

### No Exclusive Contract for U. S. Timber at Natchez

Efforts on the part of specific forest products industry to tie-up a (U.S.) national forest's production have again come to naught, this time in the area serving Natchez, Miss.

Here, the Adams county board of supervisors refused to endorse the application of the Crawford Corp., of Gloster, Miss., for an exclusive contract covering the Homochitto forest. The forest embraces 66,000 acres of particularly fast growing forest lands. The Adams county board of supervisors adopted a resolution urging the view on the U.S. Forest Service that removal of products of the Homochitto from a competitive basis when timber is marketed would work a hardship on local

The Crawford Corp., with headquarters in Baton Rouge, La., acquired the sawmill facilities formerly operated by the Gloster Lbr. Co.

### Disston Book on Chain Saws In Demonstration In Print

Can a chain saw be demonstrated in print so that a reader can almost feel the keen-edged chain bite into wood?

Henry Disston & Sons believes it can -and is doing it. The centuryold Philadelphia firm, a leading manufacturer of power-driven chain saws, has set out to tell the chain saw story in a book designed to virtually put a saw itself in the hands of prospective usersand thus to educate and sell them.

Disston's new handbook emphasizes the labor-saving and money-making potential of power-driven chain saws, with text and nearly 150 photographs.

Disston's 36-page handbook of Timemagazine size, "How To Cut Costs and Make Money with Chain Saws," was three months in preparation (by Gray & Rogers advertising agency, Philadelphia). Photographs of logging operations from all over the world were combed to find the best illustrations of chain saws in use.

The booklet covers the entire Disston line-the one-man bow saw, the sturdy 3.5 horsepower 18-inch to 30-inch straightrail types, and the powerful workhorse of the lumber camps, the 12-horsepower, two-man Disston.

Anyone interested may obtain a copy by writing Henry Disston & Sons, Inc., Tacony 244, Philadelphia 35, Pa.





NATIONAL ANNUAL MEETING of Forest Products Re search Society was held June 25-29 in Partland, Ore., a twasame working hard an arrangements

FRED ARMBRUSTER (left), Mgr. Dow Chemical Co., Seattle, was Chairman of Industry Show held in Portland Armory; R. D. PAULEY (right), Mgr. Development Dept. ment Dept., Weyerhaeuser Timber Co., Longview, was General Chairman for the meeting. Portion of technical program was on pulp and paper develop ments and on containers and packaging.

International Trucks Bought

Columbia Cellulose Co., building a pulp mill at Watson Island, near Prince Rupert, B.C., has acquired eight new L160 model International trucks for use in general construction work, and they will be in service this spring.

# "This is PERFORMANCE you can't beat"



Only a completely satisfied user will make a statement like that. And that is exactly how W. E. Anderson of Brunswick, Ga., describes the work his International T-6 Crawler tractor is doing for him year around. Mr. Anderson is producing pulpwood in southeastern Georgia. His equipment is one International T-6 tractor and two trucks to haul the pulpwood to the mill yards.

"Our average production of pulpwood in the southern Georgia swamps is 16 units per day. This T-6 tractor worked for 28 months before its first repair job. Till then, all we ever did was to turn the track pins and bushings. The repair job consisted of replacing the track rollers." No wonder Mr. Anderson says "This is performance you can't beat."

Your International Industrial Power Distributor is ready to supply you with tough, job-tested International tractors for your pulpwood operations. See him now about your pulpwood production problems and let him supply you with International tractors—a sure way to get unbeatable performance.

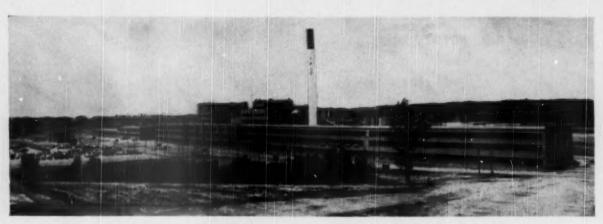
INTERNATIONAL HARVESTER COMPANY . Chicago





INTERNATIONAL INDUSTRIAL POWER

CRAWLER TRACTORS . WHEEL TRACTORS . DIESEL ENGINES . POWER UNITS



International Paper Co.'s new Dissolving Pulp Mill recently constructed a few miles south of Natchez, Mississippi.

# NEW I. P. DISSOLVING PULP MILL STARTS OPERATION AT NATCHEZ

Construction of the new International Paper Co.'s Southern Kraft Division mill at Natchez, Miss., officially started on February 24, 1949, was brought to a conclusion on May 9, 1950, at which time operating crews took over from construction forces. The new mill, shown in accompanying photograph, marks a number of departures from previous norms in the southern pulp and paper producing field.

Originally heralded as a dissolving pulp mill for the consumption of hardwood (gum) the new mill will start its production on paper pulp primarily from southern pine (the standard source of pulp in the southern states) probably reaching the 50 percent mark on utilization of hardwood at the end of the current year.

The mill site is located a few miles south of Natchez, Miss., a historic community recently touched with industry with resultant expansion of municipal limits to St. Catherine's Creek, beyond which are located not only the new IP mill but also that of Johns-Manville. Other industries have moved in.

This influx of industry into a community frozen by the death knell of the steamboat era and the boll weevil decades ago resulted in the construction of 1500 dwelling units during 1949.

The new Southern Kraft mill at Natchez is noted for a wide range of features. For one, it has an outstanding water treatment system furnished by Infilco. Then it has eight of the largest digesters in the southern field, produced by the Houston, Texas, plant of A. O. Smith Corp. Each of these eight units are 60 feet long by 13 foot diameter, with wall thickness of approximately one inch. Each digester weighs 98,500 pounds. Nozzles are lined with Type 316 stainless steel. A unique feature of the cones is a 6-foot 6-inch knuckle radius.

The Electrical Steel Foundry Co. sold the Natchez plant its circulation system with digester strainers. A new design of stainless steel digester relief condenser was involved.

An IP-modified Kamyr type bleach plant, taken from the installations at Springhill, La., and Bastrop, La., has been installed.

The evaporators were furnished by Goslin-Birmingham of Birmingham, Ala.

The digesters, 5460 cubic feet compared with 4200 cubic feet as the largest to date were lined with carbon brick by Stebbins.

The grinder was furnished by Lobdell,

and is equipped with a Reliance VS drive.

The mill is equipped with a new hydraulic barking system in which two of these units will handle logs at the rate of 180 per minute per barker. These barkers are equipped with one IMPco filter per barker on a closed system. The waskers as well as the conveyors for the pulpwood logs are controlled by Reliance Elect. & Eng. Co. VS motor drives.

The washing of pulp will be effected with 12 Oliver United Filter Co. units. These with four deckers will be operated with the aid of Reliance VS drives.

Despite the handicap imposed by union rules that the operation crews could not come into the scene until the construction work had been officially completed, the Southern Kraft Division of International Paper achieved a distinct record in the task at Natchez. It is no secret that the Southern Division, which is under the direction of Major J. H. Friend, refused to limit itself to a "completion" date thus leaving its task wide open. E. E. "Gene" Ellis served as construction project engineer. George Ward, chief engineer ad Mobile, and A. F. Perkins, his assistant, were active in connection with the project.

# **New Sonoco Building**

A new building to house the conversion facilities of Sonoco Products Co. (Hartsville, S. C.), at Mystic, Conn., is being constructed. The new structure will measure 225 by 275 feet. G. W. Blunt White is vice president of this Northern Division.

# Vacation for Waldron Plant

The John Waldron Corp., New Brunswick, N. J., manufacturers of paper and textile converting machines and flexible couplings, has announced its plant will be closed for vacation period, June 30-July 17.

# **Disston Names Gillespie**

William P. Gillespie, manager of the market requirements department, Henry Disston & Sons., Inc., Philadelphia, has been named manager of chain saw sales for the old Philadelphia firm. Mr. Gillespie, a veteran in hardware sales for Disston, succeeds Eilwood J. Gebhart, who is being assigned to a key research and development post.

### Chromium Corp. Moves

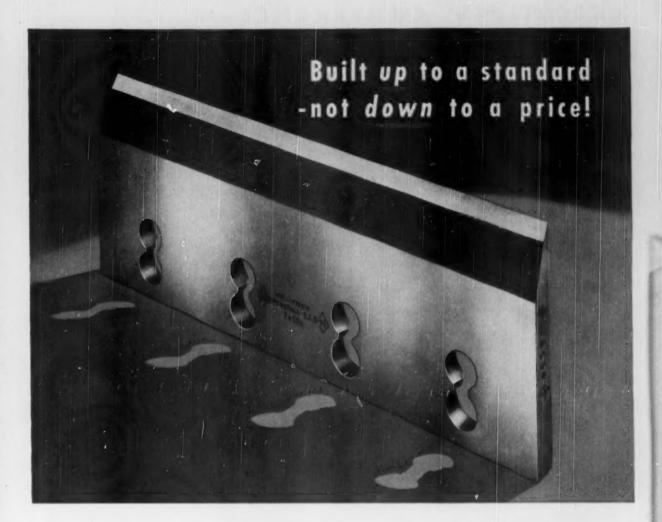
Chromium Corporation of America has a new address. It has moved from 120 Broadway, N. Y. S. to 100 E. 42nd St., N. Y. 17. Other offices are at 346 Huntingdon Ave., Waterbury, Conn.; 4645 W. Chicago Ave., Chicago, Ill.; and 1760 Lakeview Road, Cleveland, O.

# **Gulf States' New Offices**

Gulf States Paper Corp., Tuscaloosa, Ala., was moving administrative staff into new administrative quarters at the plant as this issue went to press.

### Hydrapulper to Los Angeles Mill

A new 16-ft. Hydrapulper has been installed at the Los Angeles mill of Container Corp. of America, which produces 9-pt. corrugated. This will replace the beater system that has been in operation for many years, and is expected to improve the product's quality.



# Heppenstall E. I. S. Chipper Knives

It's the overall lifetime cost of your chipper knives—not first cost—that points the way to real economy in chip production. That's why it pays to use Heppenstall E.I.S. Chipper Knives!

To be sure of top quality, Heppenstall makes its own special analysis steels in electric induction furnaces . . . tempers these steels to give you exactly the characteristics you need for a clean-cutting, long-wearing knife.

Because they combine fine steels and correct designs (including standard slot dimensions), Heppenstall solid alloy chipper knives operate more hours between grinds, reduce chipper "down-time", produce fewer oversize chips with less sawdust waste.

If you're truly economy-minded, order a set of Heppenstall E.I.S. Chipper Knives today and prove their outstanding advantages under your own operating conditions.

Look for the tan color on the ends of each knife and shipping box for quick identification.

HEPPENSTALL COMPANY



# EXECUTIVES' CONFERENCE

**300 Take Part in Appleton Talks** 

About 300 executives of this and allied industries attended the 14th annual executives' conference of the Institute of Paper Chemistry in Appleton, Wis., in mid-May. Many of them had a preceding day of activity at the U.S. Forest Products Laboratory in Madison, Wis. A panel discussion brought out the fact that productivity-amount of goods produced by one man in one hour-has multiplied 5.2 times in 50 years in the paper industry, compared with only 2.5 times in the na tional economy as a whole. Technical progress, capital available for machinery and organizational know-how were described as keys to increased productivity.

Vice President John R. Strange of the Institute was moderator of the panel which also emphasized need for greater use of wood fibers by higher yield semichemical pulping; better wood handling and wood production machinery, and uses of wood species not now commonly used. Dean H. F. Lewis said diseases, wind and fire destroy more wood annually than is used for pulp. Stream problems were discussed.

Allen W. Dulles, who arranged surrender of Italy and is brother of John Foster Dulles, discussed Communist advances in Europe at a banquet.

An address by Holland R. Wemple, vice president of Texas Gulf Sulphur Co., who could not attend, was read. He credited the Institute with developing a sulfur burner now used in mills to effect important savings. Other allied industry officials in starch and other fields reported on aid the Institute had given them.



D. C. Everest, chairman of Marathon, said the "institute idea was conceived by Ernst Mahler (left), executive vice president of Kimberly-Clark; Dr. Otto Kress, now retired; and Westbrook Steele, Institute president, and after 21 years of exist-

ence, its work can never be evaluated in dollars and cents.

### **Cure for Fatal Disease**

In his annual report, Mr. Steele disclosed the Institute had developed a compound from sulfite waste liquor which is a cure for histoplasmosis, previously fatal children's disease, and had even financed successful clinical investigations in another institution, Vanderbilt University.

The Institute has graduated 101 Ph.D.'s, of which 47% are in pulp and paper production work, the rest in research or other fields, he said. It has carried out 1,529 research projects for mills or allied industries. Great Northern Paper Mills, Gilman Paper Co. and Hercules Powder Co. were announced as new members. The Institute needs \$66,500 a year for scholarships, he said.

Sandwell Forms Own **New Engineering Firm** 

P. R. Sandwell, consulting engineer, has announced the formation of Sandwell & Co. Ltd., with offices at 736 Granville St., Vancouver, B. C. The new company will serve as engineering consultants in respect to industrial undertakings, especially pulp and paper plants.

With widening of Mr. Sandwell's practice, on this continent and abroad, the incorporation was deemed desirable

WILLIAM P. JORDAN, who recently resigned as manager of engineering and maintenance, Ecusta Paper Corp., Brevard, N. C., says he has not yet decided on future activities, although he has been considering a proposal to serve a paper company in Europe. He is still in America and not sure he wants to leave.

NEXT ROW—I. to r.: EDSON J. FARRELL, Divisional Chemist at Madawaska, from Univ. of Massachusetts; MYLES KELLY, veteram Asst. Bond Supt. at Madawaska; DONALD A. FORBES, Scetland-born Asst. Chief Engineer of Fraser Cas., alumni of U. of Saskatchawan; GORDON NARRISON, Divisional Chemist at Edmundston, HERE'S A GALLERY OF "MEN OF FRASER"-Just random "snaps" of a few of the votoron executives of the Fraser Companies taken by PULP & PAPER on a recent Tag-1. to r.: VERNON H. EMORY, Mill Mgr. of Edmundston, who went there years ago from Abitibi Company; J. W. D. "JACK" HIERLINY, who recently bealso from Saskatchewan.

We're sorry that F. O. WHITE, the noted Chief Engineer; C. T. CLARK, Mill Mgr. at Restigaucha, and some others were not available when these pictures were

taxen.

BELOW-GENERAL VIEW of the Restigauche mill, about 120 mi. northwest of the new Newcastle mill. Lewer right: NEW SHIPPING ROOM at Atholville, where Restigauche quality bleuched paper and dissolving pulps are stored under steel roof and in pre-cast concrete brick-tiled walls.

came Acting Mill Mgr. at Madawaka; JAMES S. REED, veteron Bend Mill Supt. at Madawaka, born in Vermont and with Fraser since '25; WILLIAM A. KETCHEN, Chief Chemist of Fraser Cos., a McGill '28 graduate; DR. ALFRED J. COREY, Asst. Chief Chemist, U. of New Brunswick 122, LEO J. RIOUX, veteran Suffice Supt. at Edmundston; E. O. HOUGHTON, Operating Supt. at Athebrille (Restigued Co.); JOHN COPPENS, Catalog Mill Supt. at Madawanka, who came from Holland and started with Kimberly-Clark years ago—20 years with Fraser.

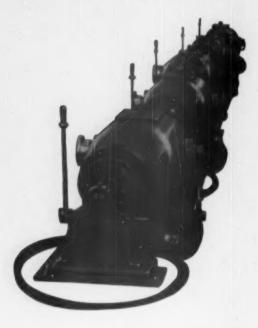




Aerial view of the Puget Sound Pulp and Timber Company's plant on deep water at Bellingham, Washington. Although this company and its antecedents are credited with pioneering the wood pulp industry in the Pacific Northwest, its present plant is modern and up to date in all respects. It's production capacity is three hundred and sixty tons of unbleached sulphite pulp daily, plus extensive by-product output.

PUGET SOUND
PULP & TIMBER COMPANY

# Positive Power...



# with the NEW BAGLEY & SEWALL SIMPLEX DRIVE

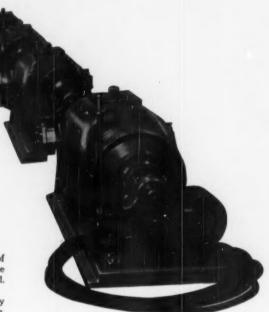
This new paper machine drive gives you what you have been wishing for — a modern, compact, rigid drive that delivers maximum power to the various sections of a paper machine . . . a positive, interlocking drive — no jerks or backlash.

A tight package — a complete, sturdy, vibration-free unit with a wide range of speed variations. The speed of the individual units can be varied from 20 to 25% without changing the speed of the prime mover.

Being a completely self-contained unit, it requires a minimum of space. It can be installed where the space on the back side of the machine is tight or the distance between in-drive points is small.

All parts are easily accessible. The case cover can be readily removed, exposing all moving parts without disturbing any settings.

Write us for further information regarding the new Bagley and Sewall Simplex paper machine drive.



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J. S. Scheuermann, vice-president of Bogley & Sewall Company, of the company's new offices of 500 Fifth Avanua, New York City.

# a message to old friends about a new service . . . . .

- The opening of New York offices for the Baglay & Sewall Company also marked the astablishment of a new division of the company devoted to all types of slitting, re-winding, and laminating equipment.
- In charge of this effice and the new converting division is J. S. (Joe) Schauermann, widely known throughout the pulp and paper industry of North America for the past 26 years as a topmost sales engineer in this field. In his new capacity he has been made a vice-president of Bagley and Sewall.
- The New York office is set up to serve more quickly the mills and converting plants in all regions of the North American continant. Our new establishment, in direct touch with the engineering and manufacturing facilities at Watertown, is in the center of midtown Manhatton—capital of the world paper industry. Drop in any time to discuss any of the following in addition to converting equipment:

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### PASC MAKES PAPER AWARD

Claude Sharp, superintendent, Los Angeles Paper Box Co., succeeded Robert W. Stevens, mill manager, Angelus Paper Box Co. as chairman, Paper Makers & Associates of Southern California, at the May dinner meeting of the organization.

W. T. Birdsey, Pioneer-Flintkote Co. was elected vice chairman. Joe T. Cooey, Angelus Paper Box, was re-elected secretary-treasurer for the second time. New members of the board of governors chosen were Mr. Stevens; Walter Quinn, manager, Container Corp. of America at Los Angeles; and Arthur G. Kane, Jr. The George M. Cunningham \$100 cash award for best technical paper of the year went to Arthur G. Kane, Jr., sales representative, Westinghouse Electric Corp. His winning paper was titled "Market Research" Six other papers on various phases of paper mill procedure, or in allied fields competed.

Mr. Cunningham, as western representative Nopco Chemical Co. (formerly National Oil Products) is one of the founders of PASC. Five years ago he developed the idea of creating a forum of ideas, developments and forward thinking within the paper industry of Southern California and backed this with the award.

In his paper, Mr. Kane, who is also chairman of the projected "Ten Year Book of PASC", sought, mainly by illustration, to examine reasons behind the purchase of any product, the exploiting of new markets and discovery of new uses for old products.

PAPER MILL MEN'S CLUB, Los Angeles, which every year makes a handsome donation to some worthy local charity, this year gave \$1,000 to a new Shriners Crippled Children's hospital. When efforts of the club produced \$900, individual members ante'd up the balance. Individual denors included: Frank R. Philbrook, Graham Paper Co.; F. G. Van Amberg, Angeles Paper & Excelsior Products Co.; Louis T. Mork, U. S. Envelope Co.; J. D. Tudor, Flintkote Co.; G. A. Theim, Milwaukee Lace Paper Co.; Elmer C. Thomas, A. U. Morse & Co.; Chas. L. Brouse, Pacific Waxed Paper Co.; B. E. Calhoun, Marathon Corp.; Sidney Smith and Ray Godfrey, Schermerhorn Bros.; Leo A. "Bill" Gardiner, Nekoosa-Edwards Co.; G. A. Madigan, Johnson, Carvell & Murphy; and Lester E. Remmers, Crown Willamette Paper Co. J. C. & M. and Crown Z also donated as firms.





CLAUDE SHARP, Superintendent, Les Angeles Paper Box Ce. (top center), is the new Cheirman, Paper Makers & Associates of Southern California, succeding R. W. STEVENS, Mill Manager, Angelus Paper Bex Co., Lee Angeles (top left). At top right is JOE T. COOTY, also of Angelus, who was re-elected Secretary-Treasurer, at Lynwaed, Calif., meeting May 18

ARTHUR G. KANE, JR. (lower left), Sules Representative, Westinghouse Bloctric Corp., Les Angeles, won the GEORGE M. CUNNINGHAM Award of \$100 for the best paper, "Macket Research" presented before PASC, May 18. Here, Mr. Kone, left, receives the annual award and check from Mr. Conninghom, western representative, Napec Chamical Co.

### Ollie Duncan New Supt. at Potlatch Mill in Idaho

Ollie Duncan, veteran papermaker in South and Far West, widely experienced on installations and startups, has become the paper mill superintendent for the new Potlatch Forests, Inc., kraft pulp and paper mill being built at Lewiston, Ida., and scheduled for completion in December.

Mr. Duncan has been boss machine tender on the new all-purpose No. 15 machine at Crown Zellerbach in Camas, Wash. He was succeeded in that position by Gene Ginder.

Mr. Duncan was at U. S. Gypsum in Los Angeles when that mill put in one of the biggest board machines in the industry after the war, and prior to that was in the Southern kraft industry.

Longview Fibre Still Setting a Safety Record

As of June 5 Longview Fibre Co., Longview, Wash., had operated continuously 306 days and 2,747,089 man-hours without a single disabling injury. The Bag Converting Division was the first single division to complete a million man-hours free of disabling injuries.

# AMMONIA PULPING OF WOOD

By DR. HENRY K. BENSON

### Former Head, Chemistry and Chemical Engineering Dept., University of Washington, Seattle

There is considerable interest in ammonia base pulping of wood in the Northwest and also in Maine. One large mill in Washington has used ammonium bisulfite for its cooking agent for several years and now a second smaller mill in Oregon has converted to this process. Two mills in Maine are producing their pulp by ammonia base pulping.

The practice of these mills seems to confirm the conclusions reached in earlier experimental work described in the literature and in various patents. Some of these conclusions may now be stated with more or less certainty.

- There is no controlling patent that governs this process and consequently no royalty fee for its operation.
- There is no special equipment necessary for its operation for the production of pulp and the disposal of its waste liquor may be accomplished with standard equipment.
- 3. The use of wartime government plants for the manufacture of synthetic ammonia from natural gas, air and water assures an ample supply at greatly reduced costs from those formerly prevailing. High freight rates are an appreciable factor in the cost of ammonia.
- 4. The handling and storage of ammonia at the pulp mills is no longer a difficult matter since it can be readily converted to aqua ammonia of 29% concentration under a pressure of 10 pounds or less, without hazard or inconvenience.
- 5. The making of cooking acid from aqua ammonia and  $\mathrm{SO}_2$  from the burners may be done in adapted Jenssen or Barker Towers or in packed towers commonly used in chemical engineering operations.
- 6. The cooking acid consists of ammonium bisulfite and free sulfurous acid, expressed by the following mill:

Total SO,	6.00%
Free SO,	5.05%
Combined SO,	0.95%

This varies in the case of special pulps where the free SO<sub>2</sub> often is as high as

- 7. The disposal of waste liquor of ammonia base pulping may be undertaken in a variety of ways such as (1) evaporation, (2) burning, (3) waste heat recovery, (4) SO<sub>2</sub> recovery, and (5) ammonia recovery, possibly.
- 8. At present most of our knowledge is confined to ammonia pulping and the properties of the pulp derived therefrom, with the discharge of waste liquor into streams and waterways, awaiting the outcome of pilot plant studies for further disposal.



Dr. Benson, the author, while now Professor Emerity and Research Director of Laucks Laboratories, Seattle

- 9. From the existing operations it appears that ammonia pulping has certain favorable aspects or advantages over the calcium base pulping now generally used in sulfite pulping. These may be cited as follows:
- a. The higher solubility of both normal and acid ammonium sulfite accelerates the rate of chip penetration and reduces cooking time. This greater penetration favors a more complete reaction of the acid with the wood and reduces the percentage of screenings as well as the bleach demand.

The pulp washes free from liquor more readily and screens better due to less foam forming on the plates.

- b. The absence of solids in acid making favors economy in labor in the unloading of stone into the storage pile and charging the acid towers. It also eliminates damage to tower linings and requires no cleaning out of cores from tower grates. The protective lining that forms in towers in the calcium process is replaced with a permanent plastic cement used in re-pointing the mortar joints after initial corrosion.
- c. The absence of sludge in the acid reduces wear on pumps and permits easy adjusting of free and combined SO<sub>2</sub> to suit the kind of pulp to be made as well as the kind of wood used.
- d. Scaling of strainer, below nozzle, indirect heater and blow pit bottom does not take place to the same extent as in calcium pulping.
- e. Under conditions of favorable cooking, it appears that sulfite pulp made by the ammonia base is stronger, has a higher viscosity and a lower bleach demand than the calcium base pulp made under similar conditions. Definitely the yield of

### The Problem Facing Sulfite Mills—and the Possible Solutions

The sulfite pulp industry—particularly in Wisconsin, Washington and Oregon where deadlines for changeover have been set for 1951 or 1952—is spending hundreds of thousands of dollars annually and pressing forward various research projects in an effort to find a way to use, or dispose, of their waste liquor economically.

On one side they are being pressed strongly by official agencies or pressure groups of citizens for fast action. On the other, they face the danger of installing some system that may, even in a few months, prove a white elephant, if something better develops or cost calculations boomerang. Installed at cost of up to 3 or 4 million dollars per mill, a mistake could jeopardize investment of many stockholders and jobs of thousands of employes.

Three most-discussed variations of the present orthodox sulfite system are:

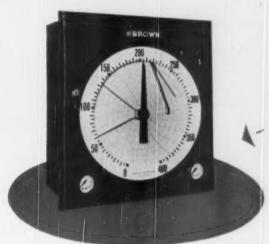
- (1) Ammonia base versus
- (2) Magnesia base versus
- (3) retention of calcium base but with the Rosenblad switch system of evaporation. Under each of these systems there are many grave problems, and possible costly stumbling blocks, in the process of evaporation and then of burning, so that chemicals and/or heat in various possible balances may be recovered and utilized.
- In Washington state for instance, heads of two of the largest mills said they would decide between adoption of ammonia or magnesia base cooking; but in smaller mills, in Wisconsin particularly, much research has been done on the Rosenblad system, hopeful that may be their answer.
- Pulp & Paper has published several exclusive articles recently on the magnesia base system. Last month we published an official Weyerhaeuser document revealing that survey has now determined their MgO plant in Longview, Wash., has an economically attainable recovery balance of 70 per cent sulfur and 88 per cent MgO, with 9,000 BTU's expended usefully in heat recovery. In the March issue, Pulp & Paper featured an exclusive illustrated description of the calcium base Rosenblad evaporator pilot plant results at Appleton, Wis.

Now, in this article, we present what is frankly a marshalling of "pro" arguments as to ammonia base cooking. The author, Dr. H. K. Benson, retired head of chemical engineering and chemistry at the University of Washington, has long been regarded an outstanding pioneer and world authority in studies of ammonia sulfite processes.



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FOR THE PAPER INDUSTRY

screened pulp is higher and it has a lower pitch content and is cleaner.

f. While the work on waste liquor has been limited certain properties have been ascertained. Its scaling tendency is less than calcium waste liquor being dependent upon the ash of the wood and its prior history. The cost of evaporation

therefore should be less, its ash content is about one tenth of that of calcium base liquor and its colorific value correspondingly higher. The concentrated liquor is well suited for furnace combustion with recovery of heat and chemicals.

g. Although ammonia costs more than calcium, its use for pulping has shown a number of compensating factors such as increased yield of pulp; shorter time of penetration and cooking; wider range in choice of wood species; higher quality of pulp; and greater ease of operation of recovery processes for avoiding water and air pollution. In given cases these factors may well compensate in dollar value the difference in cost of ammonia and calcium in pulping processes.

Salinity of - - -

# SALT WATER BORNE WOOD

(1950 Prize Shibley Contest Prize Winning Paper)

By John T. Firestone

Pulp Division, Weyerhaeuser Timber Co., Everett, Wash.

Weyerhaeuser Timber Co. pioneered in the first commercial scale magnesia base sulfite recovery system in the world at its Longview, Wash. plant. Officials have stated that salt in the wood used at their Everett, Wash., mill is a major problem in facing study of the adaption of the MgO system to the Everett mill.

The study of the salt problem, discussed in this paper, was adjudged winner of the 1950 Shibley Award contest on the const. Following general introduction in which he reviewed waste liquor use proposals and reviewed characteristics of various bases for sulfite pulp cooking, his article continues as follows:

The object of this investigation was to determine the amount of inorganic salt introduced into the pulping system at the Everett, Wash. Pulp Mill of the Weyerhaeuser Timber Co. The question of salt in our wood is one related to problem of recovery in magnesia base cooking.

At the Everett mill about 73 per cent of our wood supply comes from salt water borne wood. Our salinity tests show that we can expect about 3,440 pounds of salts to be picked up from the sea water and transferred to the gesters when 675 A.D. tons of chips are oked. This is our normal 24 hour usage. In her words we can expect about 5.1 pounds digesters of salt from each A.D. ton of chips.

The following will describe the history, pro-cedure, and data used to determine the aforementioned salt content of the wood supply.

Let us consider sea water itself; Redfield (1) states that the proportions of the major constituents of natural sea water are very uniform, the ratio of water to total salt content being the principal variant. Therefore the quantity of any constituent may be estimated if the chlorinity of a sample is measured.

A survey of water conditions in Port Gardner Bay made jointly by the Soundview Pulp Co. and the Everett Pulp Division of the Weyer-baeuser Timber Co. showed that the chlorinity of the waters of Puget Sound adjacent Everett runs about 15 parts per thousand. ing this as a base it is possible to calculate from chlorinity charts the make up of water adjacent to Everett as presented in Table I.

If the equivalent of cations and anions are converted to grams of material, the salt tent of the sea water will figure about 2.74 per cent. This figure is the total salt content, or salinity, of the water and corresponds to a chlorinity of 15 parts per thousand.

Definitions of chlorinity and salinity as given by Redfield may be in order. Salinity is the



JOHN T. FIRESTONE (left), of the Weyerho Everett mill, receiving Shibley award of \$50 at Comus meeting from Harold Bialkowsky, TAPPI Executive Com itteeman and Weyerhaeuser Research Director.

#### TABLE I Major Constituents of Sea Water **Adjacent to Everett**

Chlorinity = 15 parts per Thousand Eas givalents Parts per ION per Million Thousand Sodium, Na . 342.3 9.3 Magnesium, Mg · · 82.6 Calcium, Ca. 15.8 .3 7.7 463.4 9.9 Total Chloride, Cl Sulfate, SO. 43.5 2.1 Bicarbonate, HCO. Bromine, B 0.6 .0 Total 468.4 17.2

total amount of solid material in grams contained in one kilogram of sea water when all the carbonate has been converted to oxide, the bromine and iodine replaced by chlorine, and all organic matter completely oxidized. Chlor-inity is the total amount of chlorine in grams contained in one kilogram of sea water, assuming that the bromine and iodine have been replaced by chlorine salinity is related to chlorinity as follows:

Salinity = 0.03 + (1.805 x chlorinity)

Let us assume all of the water in our chips were replaced by sea water. This would be approximately 50 per cent of the weight of the wood. It can be seen from the foregoing that about 27 pounds of salt would be present per ton of airdry chips. This would amount to 18,225 pounds of salt per day at our mill.

It was found that the actual salt content of chips never approached this high a figure. Daily tests were made over a one month period, on chips going to our chip storage bins. The maximum amount of salt per airdry ton of chips over this period was 13 pounds. The minimum amount was 0.9 pounds and the monthly average was 5.1 pounds. Using this average figure for

was 3.1 pounds. Osing this average righter for salt and 675 airdry tons of chips per day, 3,440 lbs. of salt could be realized from sea water during one day's operations. Considering the definition of salinity and chlorinity, of the 3,440 lbs. of salt, 3,090 lbs. would be sodium chloride. Of course this is not strictly true since our determination was made of chlorides and some of the chlorides are present as salts of potassium and magnesium. We have no knowledge furthermore, as to reactions the metallic ions in wood itself will follow-or how they may affect the above balance-especially under combustion condi-

Naturally occurring salts in the wood are not present as chlorides since our tests showed that wood which had not been in salt water had no measurable chlorinity. However, we do know that wood is a source of inorganic salts, the ash content varying between 0.2 to 0.3 per cent. Table II shows an approximate analysis of wood ashes

### TABLE II **Approximate Analysis of Wood**

CaO	70%	Fe.O.	1	
K O	15	Mn.O.	0.5	
MgO	10	Al_O_	0.5	
P.O.	2	3-8		
Na_O	1		100.0	

Chlorides, sulfates and silicates are found only

in trace amounts (2) (3).
Using this analysis and assuming an average ash of 0.25 per cent for wood as grown, 675 airdry tens of chips would contribute 3,035 pounds of metallic ash as oxides. Of this amount about 540 pounds of oxide could be attributed

to potassium and sodium. Salt concentrations are not uniform throughout the supply of wood as illustrated in Table

> TABLE III Salt in Wood Supply

Parts / Th			D. sample
Sample			Sulinity
Daily chip analysis	Max.	3.58	6.50
over one month	Ave.	1.39	2.55
period*	Min.	0.24	0.45
Sawdust			
Large log cutoff saw		3.44	6.24
Band saw		2.35	4.27
Small log cutoff saw		2.24	4.07
Farm Wood		Trace	Trace
Pulp	No	Trace	No Trace

During the period covering the above tests, 73 per cent of the wood used to produce chips

(Continued on Page 91)



# all these products — and more use PENNSALT CAUSTIC SODA

Out of the ocean comes salt . . . which modern technology converts into caustic soda for the industries of the nation.

This chemical serves all of us in a hundred and one ways. For instance, in the Northwest it finds wide application in the manufacture of dissolving-type pulp. Here, as in many other processes, Pennsalt Caustic Soda is well known for its consistently reliable performance.

The name PENNSALT is a guarantee of uniform high quality of this important chemical. That's because, as a basic producer, Pennsalt controls the manufacture of its product from raw material to finished form.

Then, too, from Pennsalt's plants in the East and in the West, rail or water shipments can be made on short notice. And competent technical service is at all times available upon request.

Write today for information on prices, delivery, and product data. In the West: Pennsylvania Salt Manufacturing Company of Washington, Tacoma, Washington; Portland, Oregon; Los Angeles, California. In the East: Pennsylvania Salt Manufacturing Company, Philadelphia 7, Pa.

### Other Pennsalt Products:

Liquid Chlorine
Anhydrous Ammonla
Bleaching Powder
Perchforons
Potassium Chlorate
Sodium Arsenite
Sodium Hypochlorite

PENN J SALT Caustic Soda

PROGRESSIVE CHEMISTRY FOR A CENTURY

# Water Treatment Pays by Saving Fiber

by S. B. Applebaum

Manager, Cold Process Department, Cochrane Corporation.

Sufficient time has elapsed to appraise the white water treatment at the Lansdowne, Pa., mill of the Hudson Pulp & Paper Corporation. Pennsylvania has high "stream standards" and over a year ago Hudson took steps to improve clarity of white water discharge into Darby Creek. The mill was, incidentally, interested in possible reduction of shrinkage or fiber losses. The Liquon white water treatment may now be reported successful on both counts. Fiber losses are reduced materially and the previous saveall equipment is eliminated. Clarity fully meets requirements.

Originally the Liquon treatment plant was designed to treat 280 gpm but because of its efficiency it is now treating about 10 percent overload and in the near future is expected to handle a 25 percent overload.

The main treatment tank, which is the Liquon Sludge Contact Reactor design, is 180" in diameter by 12'10" tall and made of steel. This is as shown in Figure 1 (except that an external concentrator was used instead of the internal concentrator shown). The slurry of suspended fiber in this main tank is discharged continuously into an external concentrator tank alongside, which is 110" in diameter by 70" high. The fiber concentrated in this second tank is recovered and re-used. The clarified effluent from the top of the main tank and from the top of the concentrator tank is discharged and not re-used.

The fiber contents of the white water

entering the main tank at Hudson's Lansdowne mill is about 480 to 1200 ppm or 4 lb. to 10 lb. per thousand gallons. The final treated water discharged contains only 30 ppm of fiber or 34 lb. per thousand gallons, representing a fiber removal of over 97 percent. The clarity of the treated water discharged into the creek is much superior to the creek itself.

The chemical treatment involves the addition of about 40 ppm of alum sulphate and some activated silica. The amount of activated silica used is approximately 12 ppm expressed as silica and steps are being taken to reduce the amount added.

The cost of the chemical treatment amounts to less than 3 percent of the value of the recovered fiber. Substantial tonnage recovered monthly means quick recovery on investment.

It was found that best results were obtained by introducing the recovered stock in the mixing box of the paper machine. It thus served as part of the dilution of new stock added at this point.

It is claimed that the shrinkage or fiber losses have been cut approximately in half by the Liquon machine at Lansdowne.

Quebec City Is Scene of Joint U. S.-Canada Meet

Members of the Technical Section of the Canadian Pulp and Paper Association and TAPPI gathered late in May in Quebec City to hear papers on technical subjects and discuss mutual problems.

In addition to American and Canadian

delegates there
were representatives from technical associations in
Sweden and the
United Kingdom.

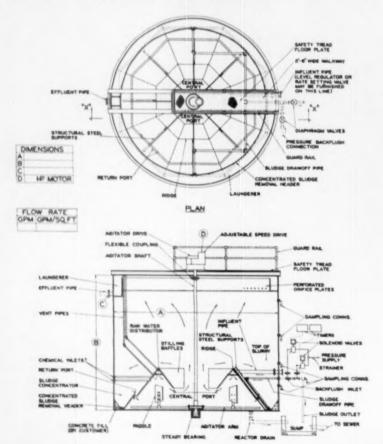
One of the interesting events was the presentation to R. L. Weldon (in picture), president of Bathurst Power & Paper Co., of an hon-

orary life membership in the Technical Section.

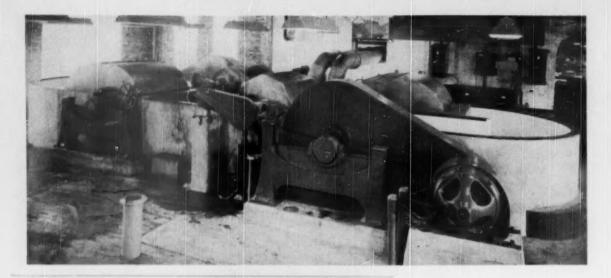
There were really two meetings, the first being an international gathering dealing with fundamental research and the second the regular summer meeting of the Canadian Technical Section. The first began May 29 and continued until May 31, while the second overlapped to some extent, commencing May 31 and continuing until June 2. All business sessions were at the picturesque Chateau Frontenac overlooking the St. Lawrence. The program included mill visits to the surrounding region—La Tuque, Riverbend, Kenogami, Jonquiere, Donnacona, Clermont and other places.

The research conference had for general co-chairmen, H. F. Lewis, dean of the Institute of Paper Industry, and W. Gallay, of the Technical Section CPPA.

Overhood plan and section view of Liquon white water treater. In mill under discussion on external concentrator was used instead of the internal concentrator shown above.









### Giant Rag Washer at Parsons Paper Co.

A large rag washer installed at the Parsons Paper Co., Holyoke, Mass., is described as the largest engine of this type in the country. The idea of this large washer, that holds 6000-8000 lbs. of rags, or a half of a cooking boiler, was conceived by operators of this mill to eliminate a considerable amount of handling that smaller conventional washers require.

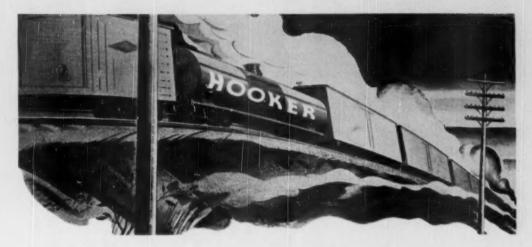
Designers and builders of the big washer, E. D. Jones & Sons, made use of two rolls and bed plates, one in each channel of the 50-ft. long tub. The tub is constructed of steel reinforced concrete with white glazed tile lining and the bottom is formed to provide adequate slope to large hydraulically operated stock valves in each channel.

Heavy rolls of bandless bar assembly design are carried on roller bearings and are made fully automatic in performance with instrument control equipment. The drive for each roll is from a 250 hp motor through a totally enclosed silent chain.

This washer replaces six conventional washers and produces a better, and freer, half stock with less power per ton and with a saving in handling costs, according to operators.

Parsons is one of the best known of the historic rag mills of the Holyoke area. Two Fourdriniers trim 72 and 85½ inches.

Officers of Parsons are E. P. Bagg, Jr., president; Henry V. Burgee, vice president and general manager; and Albert Canfield, secretary.



# Liquid Chlorine Versus Bleaching Powder

Although bleaching powder was in regular use by pulp and paper makers for many years, it carried with it time consuming and costly difficulties. Bleaching powder was never stable in storage and when made into bleach liquor, it was difficult to get clear solutions and to eliminate sludge.

When liquid chlorine became readily and cheaply available, the old bleach powder methods could be discarded. Under the stimulus of production for World War I, electrolytic cell design improved, chlorine production increased and economical methods of liquifying and transporting were developed. Hooker engineers and chemists played an important part in this progress. They also helped specifically in the pulp and paper industry not only in improving bleaching techniques but in the designing of bleaching equipment.

Hooker technicians are constantly engaged in making available for you the high purity liquid chlorine and other Hooker chemicals you use. The results of their studies, too, are available in Hooker Technical Bulletins and cover a wide range of subjects of interest to pulp and paper makers. A list of the titles of these bulletins and copies of those you would like to have will be sent to you when requested on your letterhead.





AMOR HOLLINGSWORTH, JR., of Boston, Prosident of Tilesten & Hollingsworth Co., a Director of Hollingsworth & Vose Co. and Vice Procident of Penebacet Chemical Fibre Co., who has been elected a Director of Hollingsworth & Whitney Co., Baston. He succeeds M. W. Vaughan of Rutland, Vi., who retires ofter being associated with Hollingsworth & Whitney since 1878.

### Continental Restores No. 2 For No-Strike Pledge

No. 2 paperboard machine at the Continental Paper Co., with a daily production capacity of 160 tons, will be operating again by July 10 after more than 12 months of idleness. This means rehiring of 150 employes and will give Continental its full production capacity of 310 tons of paperboard daily.

William J. Alford, III, company vicepresident, said the decision to spend a quarter of a million dollars on reinstalling the machine was tied to the A.F.L. union's year's no-strike pledge. No. 2 was dismantled last year for repair and improvements just before a long CIO strike closed down the mill.

### Dust or Fly Ash Collector Made by Pusey & Jones

The Pusey and Jones Corp., Wilmington, Del., builders of paper-making machinery, are now manufacturing Aerodyne dust and fly ash collectors for use in pulp and paper mills.

The basic unit of the system is a slotted sheet bent into a cone. When a blower is started, air or gas to be cleaned is passed at a high velocity over the filter surface and because of the design of slots, aerodynamic forces are set up. This deflects particles away from the surface, keeps particles suspended in a thin cloud in front of slotted filter surface. Cleaned air escapes through slots. Suspended dust is carried at high speed to outlet end of the cone where it is withdrawn into a secondary circuit along with a small portion of the air or gas. Here dust is precipitated and collected in a small container.

For further particulars write R. S. Johnston, vice president, The Pusey and Jones Corp. Wilmington 99, Del.

Groundbreaking for New Palatka, Fla., Mill

At a recent Southern Pine Association meeting in New Orleans the president of Hudson Pulp and Paper Corp., New York, announced the date of ground-breaking for the "twin" mill to be erected parallel with almost-new No. 1 mill at Palatka, Fia. Said Jack Mazer, "It will be on June 5." Charles Grondona, in charge of mill operations, was almost as assured about the start-up of the mill, but got the sudden cold feet of a man who knows how things go. "Let's say some time within the first six months of 1951," he said. Mr. Mazer's sod busting went off as scheduled and he smiled expectantly at Mr. Grondona and the engineers.

Award Made Longview Fibre For Unusual Safety Record

In recognition of its safety record for 1949 Longview Fibre Co., Longview, Wash., has received the National Safety Council's Distinguished Service to Safety Award. One of the prerequisites for receiving this distinction is a minimum record of one million man-hours without lost-time accident. The mill before press time has about doubled its year-end record of 1,406,631 accident free man-hours and was still going strong.

The award was transmitted by R. S. Wertheimer, vice president and general manager, to company employes. Acceptance talks were given by presidents of local unions, Ray Bradford and Norman Hess. both of the Central Safety Committee. Other members of the committee accepting the award are Carl Fahlstrom, assistant resident manager, chairman; V. V. Peters, mechanical superintendent; R. L. Mullen, safety director; M. F. Davis and Nate Johnson, union safety committeemen.

W. J. Shelton, superintendent of pulp and paper manufacturing said goal of plant employes was to surpass the present pulp and paper industry record of 3,345,000 man hours without lost time accident.

### Miami Valley and Michigan Supers Guests of Orr Felt

Orr Felt and Blanket Co., Piqua, O., sponsored a joint outing of Miami Valley and Michigan Divisions of the Superintendents Association, May 26 at Piqua. Emphasis was placed on golf, with many prizes. Mrs. Norman Scott, wife of Orr's sales manager, arranged the ladies' program.

Buys John Inglis & Co.

English Electric Co. of the United Kingdom has acquired a controlling interest in John Inglis & Co., Toronto, manufacturers of machinery widely used in the pulp and paper industry of Canada. English Electric is one of the world's largest manufacturers of electrical equipment and has been affiliated with the Inglis company for some time.

Major J. E. Hahn, president of John Inglis & Co., since 1936, will continue in that capacity, with the same executive personnel.



The election at the Annual Meeting of Bloedel, Stewart & Welch, Limited, on Apr. 18, of Sidney G. Smith (above), as Vice-President and General Manager was today announced by Mr. Prentice Bloedel, President. Mr. Smith has been associated with Bloedel, Stewart & Welch since it was founded in 1911, and except for the period when he served overseas with the U.S. Army Engineers in World War I, has been active in the company's management. In recent years he has been vice-president of the Timber Division and in his new position Mr. Smith will have general direction of all the company's operations. A prominent figure in the Pacific Northwest logging and lumber industry, Mr. Smith is at present a director of the B. C. Loggers Association and a vice-president of the Pacific Northwest Logging Congress.

### Plans for Mills in Western Canada

Announcement is expected soon concerning the plans of Canadian Western Timber Co. for proceeding with construction of a dissolving pulp mill at Duncan Bay on the east coast of Vancouver Island.

There have been reports that a pulp mill may be built shortly in the Cariboo district, where the British Columbia Power Commission is making preliminary preparations for hydro-electric production.

Sir Eric Bowater, head of the Bowater paper organization of England and Newfoundland, has issued a statement to the effect that he does not plan to build or buy a pulp mill on the Pacific Coast this year.

### **Allis-Chalmers Booklet**

To promote intelligent and consistent maintenance of electrical machines, Allis-Chalmers is making available a 24-page booklet by Fraser Jeffrey, assistant to the company's chief electrical engineer, entitled "Care of AC Rotating Equipment." Copies are available on request from Allis-Chalmers Mfg. Co., 1030 S. 70th St., Milwaukee, Wis.



A RARE PICTURE in that so many of the California officials of Fibraboard Products, Inc., are gathered together in one place at one time. (Left to right):
F. W. HILL, Plant Supt. and Sefety Director, South Gate Div.; ROBERT E. BUNDY, San Francisco, Vice Pres. in charge of all production; F. STEWART; EARL
WHITE, head of South Gate's union committee; CLYDE W. KING, San Francisco, Mgr., Public and Industrial Relations; K. ROBERTS, South Gate; FRANK
WHEELOCK, Asst. Resident Manager, Vernon Div., E. D. CONNOR, Plant Engineer, South Gate; GENE RIDINGS, Personnel Mgr., Vernoe; HARVEY BROWN,
Resident Mgr., Vernoe; OSCAR HALLBURN, Resident Mgr., South Gate is a carrugating plant in south Los Angeles and the accessed for picture
was winning of a National Safety Council award of honor. Fibreboard also has two board mills in the Los Angeles area—Vernoe and Sunset.

### Mill Barbershop Quartet

Musical talent at the Port Townsend, Wash., Crown Z mill is appreciated and encouraged and now the mill boasts its own chapter in the Society for the Preservation and Encouragement of Barbershop Quartet Singing in Amer-

As any good barbershopping fans know, this is an authentic and a very well known national organization and it is believed the Port Townsend mill is one of few paper industry organizations to have a chapter.

Robert Reese Marriot, assistant technical control supervisor. University of Washington graduate of 1936, entertainer on the piano and with magicians' tricks at many mill parties, is chiefly responsible. He coaches the quartet consisting of Roy Veech, mill program dept.; Bob Sampson, technical dept.; Bert Steinberg, multiwall bag dept., and Ken Crabtree, mechanical department.

#### **New American Hoist Crane**

American Hoist & Herrick Co., St. Paul 1, Minn., announces a new crane of the counter-weighted boom type for handling pulpwood.

Because of the counterbalanced boom, power required to raise or lower the boom need be only enough to overcome inertia of the boom weight. Very little power is required to move the load toward or away from the crane.

'fhe new unit should prove its worth as a pulpwood handling crane, particularly in feeding conveyors in restricted or cramped quarters. Mounting can be on either a stationary or movable gantry.

### Coast Industry Men Raising Hereford Cattle

Clark W. Sherman, office manager of St. Helens Pulp & Paper Co., St. Helens, Ore.; Al Fredrickson, of Anger & Fredrickson, paper mill shippers and agents, Seattle, and Al Hooker, sales manager, Hooker Electrochemical Co., Tacoma, Wash., have a common hobby—they are all owners of fine herds of prize Hereford cattle.

Mr. Sherman, whose ranch is at Scappoose, Ore., also has one of the finest registered Jersey herds in the state of Oregon. Mr. Fredrickson's ranch is midway between Seattle and Tacoma, Wash., and Mr. Hooker's is at McKenna, near

### ROBERT AND COMPANY ASSOCIATES

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Consulting and Design Engineers to the

PAPER AND CHEMICAL INDUSTRIES

HAROLD R. MURDOCK, Chemical Engineer

PROCESS STUDIES . DESIGN . POWER PLANTS . INDUSTRIAL WASTE DISPOSAL

### HERE'S YOUR MAN!



THOMAS M. "TOMMY"
GRIESPIE (left), is the eme-time warld-famed hackey player whose early picture was shown on a proceding page. He new lives at lex 41, floure 2, take Ville, III., where he and bis wife, where he and bis wife, each if his high-riding lawnmower is his pride and ipy, then her's is her own little midige stetion wagen in which she runs around the country reads. Mr. Gillerouds.

laspie "covers" the Middle West for Lockport Felt Co. and Chency Bigelow.

### John Waldron Acquires Business Of Meadows Machine Works

A development of importance to paper, textities and plastics industries took place with announcement that the John Waldron Corp., New Brunswick, N. J., has acquired the well-known Meadows Machine Works of South Kearney, N. J. Both concerns manufacture machines used in converting of paper, textiles, and plastics, and products of both are in wide use for web processing operations at high production rates.

John Waldron Corp., in business since 1827, more recently developed the Waldron "Microjet." "Syncroset," "Distron" and "Aut-O-Lac" coating machines, and other printing, laminating and plastic machines.

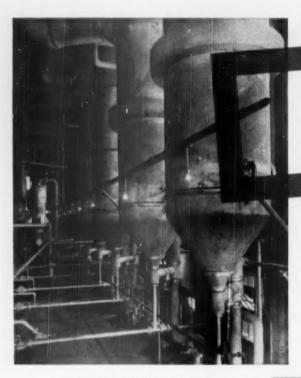
coating machines, and other printing, laminating and plastic machines.

Mesadows Machine Works, on the other hand, has long been known for its packaged line of coating, embossing, laminating and similar equipment, specifically designed and built for the medium duty types of operations.

### **Bannans Get Together**

Barney Bannan, now located in Lynwood, Calif., as assistant to his brother, Berk Bannan, vice president and general manager of Western Gear Works, visited Seattle with his wife, Kay, during May. An "unofficial" event was a dinner party of three Bannan brothers—Thomas J., president of the company; Phil, vice president and Seattle area manager, and Barney, and their wives, to celebrate the Phil Bannans' wedding anniversary.

HARRY K. ROBERTS, accounting supervisor, Crown Zellerbach Corp., San Francisco, and RALPH B. KNOTT, vice-president of Fibreboard Products Inc., also of San Francisco, have been elected president and vice-president respectively, of the San Francisco chapter of the National Association of Cost Accountants.



Lower Cost Black Liquor Evaporation

WITH SWENSON L.T.V. EVAPORATORS Years of operation in kraft and soda pulp mills have demonstrated the economy of this equipment — low first cost, low operating cost, and low maintenance.

Swenson engineers with specialized experience in the pulp industry will gladly help you work out evaporation and other process problems . . . call on them while your plans are still in the formative stage.

More than 500,000 lb of evaporation per hour is provided by this multiple-effect Swenson Black Liquor Evaporator

- e Evaporator
- · Pulp Washers · Filters · Causticizers
- Digester Blow Condensers
- Surface Condensers
- Turpentine Condensers Deckers

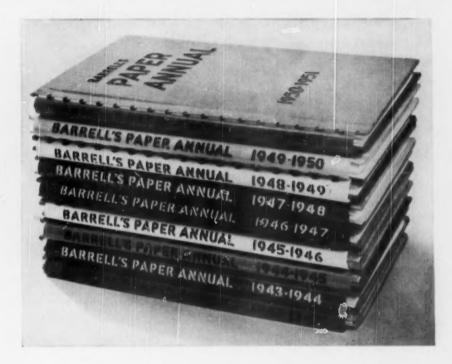
# **SWENSON**

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V O L U M E IX 1950

Presented as a service to members of the Paper Industry by the makers of Siamese & Tour Boss Dryer Felts

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Directory of Officials of 34 Paper Associations Progress in Papermaking Great American Research Laboratories — No. 3 Paper Engineering at Lowell Textile Institute





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POSITION\_\_\_\_\_\_\_

### Jenssen Flow Control Valve

A steam jacketed flow control valve has been developed by G. D. Jenssen Co., Frank Hoar, president, announces. Developed primarily for control of molten sulfur at 275°F to rotary sulfur vaporizers in the sulfite pulp industry, it is adaptable for flow control on thermoplastic materials. Design minimizes wear and maintenance replacement when handling material containing abrasive impurities. Write for details to G. D. Jenssen Co. Inc., P. O. Box 401, Watertown, N. Y.

### Facts About Norway Chlorine Accident

No damage or loss of life could be chalked up to the forgotten chlorine valve, left open after a tank cleaning, at the Sarpsborg mill of Borregaard in Norway on May 5, despite the lurid headlines of the daily orem.

lurid headlines of the daily press.
R. G. Westad, president of The Borregaard
Co., Inc., New York, told Puls 4 Pare he had
received word that several employes were hospitalized, but none seriously injured. Operations were normal two or three days later.
Chlorine flowed down the Glomma River and
authorities of Sarpsborg and Frederikstad, two
miles downriver, ordered some 40 to 50,000 inhabitants to the hills for safety. The Sarpsborg
mill is about 30 miles from Oulo, in the eastern
part of Norway's southern bulge.

### PEDIGREED DOGS

THE GREYHOUND: — This breed is as old as history itself and its principal use has been coursing the hare. They are very plucky as a rule, and have been used occasionally in this country for hunting wolves. Now they have been trained to chase the mechanical rabbit.



The Felt with a Pedigree

### DRAPER BROTHERS COMPANY

Woolen Manufacturers Since 1856

CANTON, MASSACHUSETTS

RALPH E. BRIGGS, Solve Monoger

BRADFORD WEST, Petifield, Mass. WILIAM N. CONNOR, Jr., Comon, Moss. L. H. BREYFOGLE, Kolomozoo, Mich. WALTER A. SALMONSON, 2514 Northboot 59th Ave., Partford, Oregon L. L. GREFFITHS, Jr., Kolomozoo, Mich. Machine Control

### Coast Association Elects Officers for 1950-1951



SIDNEY W. GRIMES, Portland, Ore., formerly of Rayaniar, but for several years with Pacific Coast Association of Pulp & Paper Mfgrs., as field man, has ben elected to new post of Secretary of the Association.

Pacific Coast Association of Pulp & Paper Manufacturers held its annual meeting at Portland, Ore., May 8, at that time electing the following officers for the coming year:

President, Lawson P. Turcotte, president, Puget Sound Pulp & Timber Co., Bellingham. Wash.

Executive vice president, A. R. Heron, vice president in charge of industrial and public relations, Crown Zellerbach Corp., San Francisco, Cal.

Vice president, A. B. Moody, vice president, Everett Pulp & Paper Co., Everett, Wash.

Treasurer, R. S. Wertheimer, vice president and resident manager, Longview Fibre Co., Longview, Wash.

Secretary, Sidney W. Grimes, Portland, Ore.

Mr. Wertheimer has held the position of secretary-treasurer since the start of the association in 1934, but at this meeting the position of secretary was made a full-time position. Mr. Grimes was formerly assistant secretary and field representative. He was with Rayonier before joining the association a few years ago.

Newly elected members of the executive committee are Howard Morgan, manager of pulp division, Weyerhaeuser Timber Co., Tacoma; Carl E. Braun, vice president and mill manager, Publishers' Paper Co., Oregon City, Ore.; F. A. Drumb, resident manager, Crown Zellerbach Corp., Camas, Wash.; and F. J. Herb, president, Pacific Coast Paper Mills of Washington, Inc., Bellingham, Wash.

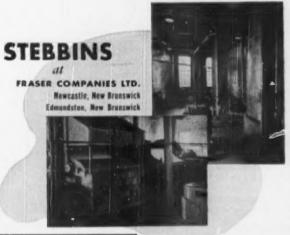
# WIRE CLOTH

FOR PULP AND PAPER MILLS

PHOSPHOR BRONZE-MONEL-STAINLESS STEEL

AVAILABLE IN A BROAD RANGE OF CONSTRUCTIONS AND ALLOYS FOR CYLINDER FACES, SAVE-ALLS, DECKERS AND THICKENERS, FILTERS AND WASHERS

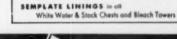
Pacific Coast Supply Company
PORTLAND, OREGON . SAN FRANCISCO, CALIFORNIA



STEBBINS Semtile and Semplate Construction was used extensively in both Fraser Companies, Ltd. Newcastle and Edmundston, New Brunswick plants.

When you have a lining or block construction problem, consult Stebbins.

Think twice before investing in linings—the wrong one can prove very costly—be safe, specify Stebbins —and have no regrets.



SEMTILE CONSTRUCTION

Washer Vats Head Bax Filter Vat Stack Chests





Paper Salesman: Don't let those specifications get you down. Quote a price to get the order.

Printer: Says you! And fall down on the delivery.

Paper Salesman: Not with this sheet. Fine finish front and back—close register for your

and back—close register for your cuts—inks will dry fast for workand-turn press work.

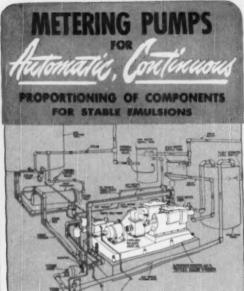
Printer: This job goes to low bidder. We can't pay fancy prices for the stock.

Paper Salesman: There's nothing fancy about the price of this paper. The mill that makes it uses Hamilton Felts on all three presses of the paper machine. Finishes both sides alike and runs so fast that the increased tonnage brings costs to an all-time low.

From the thinnest tissue to the heaviest board there is a Hamilton.
 Felt that will do your work botter, faster and at lower cast.

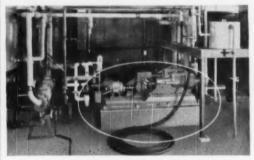
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Equipment shown white furnished by %Proportioneers, Inc.%,

The flowgram shows the Automatic Emulsifying Process developed by Hercules Powder Company of Wilmington. Del. for automatic emulsification of paste roain size. The process utilizes a %Proportioneers% Triplex Adjust-O-Feeder consisting of three properly sized proportioning pumps. driven by a single motor, to deliver at definite, predetermined rates the three components necessary for proper emulsification of rosin size—size. bot water, and cold (less than 100°F.) water. Each pump is individually adjustable as to output assuring maximum flexibility in meeting the varied conditions required for emulsifying specific grades of rosin size.



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### NEW PLANT FOR OREGON

Iva C. Keller, executive vice president of Container Corp. of America, told Pulp & Paper at Chicago, that the purchase of a 200,000 sq. ft. of floor-space warehouse on Kaiser's Oregon Shipyard property at Portland, Ore., including 12 acres of surrounding land, means new and up-to-date machinery and a new complete corrugated container and folding carton plant serving Oregon's frozen and canned food industries.

Container Corp. has had Columbia Paper Products Co. under lease since June 1, 1949, for making folding cartons. R. H. Van Saun is manager. He becomes manager of the new combined plant. The present folding carton operation will be

### **Beveridge Paper Elects**

New officers for Beveridge Paper Co., manufacturers of Indianapolis, Ind., have been elected. They are: Samuel B. Sutphin, chairman of the board; William J. Blackley, president, who represented Beveridge at the recent National Paper Trade meeting in New York recently; Samuel B. Sutphin, vice president; Samuel R. Sutphin, executive vice president; John H. Roberts, who joined Mr. Blackley at the NPTA annual; Roscoe C. Johnston, treasurer; and Charles F. Munroe, secretary. Several moved up the line on the officers' roster of last year.

moved over to the new plant.

Kraft liner board for the new Portland plant will be supplied by Weyerhaeuser Timber Co. from its new Springfield, Ore., mill

The new plant will employ more than 250 persons. It will cost \$1 million. More than \$250,000 will go into the purchase and modernizing of equipment for the Portland installation.

W. P. Hooker is general manager of Container Corp.'s Pacific Coast operations. These include mill and fabricating plants at Seattle, Auburn and Tacoma in Washington; Pertland, and Oakland and Los Angeles in California.

#### **Continental Resumes Work**

Continental Paper Co., Ridgefield Park, N.J., has resumed operations after a 37-week CIO strike. Under the agreement, a CIO representative convicted of assault on company officials will no longer "direct or advise" the CIO local; the president of the local was to resign; negotiations are postponed three months while pay scale remains unchanged and pensions suspended.

### **Murdock Prize Award**



Hiroshi Eguchi, a chemical engineer, is announced as 1949 winner of the Harold R, Murdock prise for outstanding scientific work in the Japanese pulp and paper industry. This is the second year's award of the prize donated by Dr. Murdock (see picture), who was for three years chief of the Pulp and Paper Branch of the Natural Resources Section of General Mac-

Arthur's advisory staff in Tokyo, and who is now associated with Robert and Company Associates, paper and chemical industry engineers, of Atlanta, Ga.

Mr. Eguchi advises that four well known technical books which are texts in paper schools were presented Mr. Eguchi in a ceremony in Tokyo, April 27. He is on the research staff of Kokusaku Pulp Industry Co., Ltd., rayon pulp producer.

FRED C. HOLMES, is the new sales engineer, working out of the Evanston, Ill. office of Bird Machine Co., South Walpole, Mass. He is a graduate of Worcester Polytechnic Institute, was formerly chief engineer with Smith Paper Co. at Lee, Mass., and has had water and power company engineering experience.



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### **Shibley Paper**

(Continued from Page 76)

was transported in salt water. The remaining 27 per cent of the wood came from farm logs, slabs and clear wood which had not been in

The method devised to determine the chlorinity of woody samples consisted of a cold water extraction. A Waring Blendor aided very much in this operation, completely pulping the wood. The extract was titrated with standard silver nitrated solution using potassium chromate indicator

Although the method described seems very simple, many other methods were tried and found wanting. On ashing a wood sample, results are dependent on time and temperature and results vary accordingly. A hot water extraction takes out tannins, waxes and other colored organic material which interfere with a titration. The most reproducable results were

obtained with the cold water method.

An interesting aspect of the salt problem is distribution in the cooking system. It was difficult to determine the chloride in cooking acid, however, it was found that an alkaline per-manganate oxidation would clarify the solution enough to run a regular titration. Although the results presented in Table IV are not conclusive, they may be considered an indication of the amount of salt to be expected. It is felt that the application of instrumental analysis such as the dropping mercury electrode polarograph or the spectrograph could probably give more precise values.

An average value of 0.555 parts salinity per thousand parts of blowdown waste was found. If we assume a normal value of 40,000 gals, waste liquor per blow, the salt content in the waste liquor per day figures out to 3,330 lbs. This value obtained from the analysis of our normal mill liquor checks very closely with the value of 3.440 lbs. of salt per day obtained from analysis of the incoming chips.

### Salinity of Various Liquors

Parts per	thousand parts	solution
Sample	Chlorinity	Salinity
Cooking Acid	0.116	0.239
Storage Acid	0.031	0.086
L. P. Accumulator Acid	0.025	0.075
Blowdown Waste	0.291	9.555

In conclusion we can again state that for each airdry ton of chips approximately 5.1 lbs. of salt are taken into our mill. In a closed system, such as magnesium base, this salt must be con-sidered, for it could build up to a dangerous level and cause trouble at various points of the operation, such as boilers, recovery system, and

### **Bibliography**

Alfred C. Redfield of Woods Hole Oceanographic Institution, The Characteristics of Sea Water, an appendix in the "Corroson Handhook," pp. 1111-1111, John Wiley and Sons, Inc., New York 1948. L. F. Hawley and L. K. Wise, "The Chemistry of Wood," pp. 119-122, The Chemical Catalog Coupuny, Inc., New York, 1942. A. W. Shorger, "The Chemistry of Cellulose and Wood," 1st ed., pp. 50-54—Hill Book Co., Inc., New York, 1926.

### **Barclay to Make Tour**

The kind of trip many dream about but few The kind of trip many dream about but few ever have a chance to enjoy started for Wil-liam Barclay, manager of Powell River Sales Co., Vancouver, B. C., when he left on the ship Lauritz Swenson for Europe via the Panama Canal. This isn't a business trip; it's a six months vacation journey that will take Bill to the United Kingdom, France, Belgium and the Scandinavian countries.

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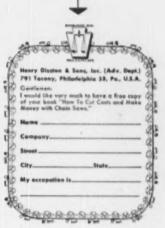
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### **Becco Issues Booklet**

Hydrogen peroxide solutions of 27.5%, 35%, and 50% concentration are described in a booklet by the Buffalo Electro-Chemical Company, Inc. It contains a compilation of physical data and properties of hydrogen peroxide, lists reactions in organic and inorganic chemistry, and enumerates applications and uses. Information on engineering materials, shipping containers, analytical methods, and physiological properties is included. Copies available on request from Buffalo Electro-Chemical Co., Inc., or its sales agent, the Becco Sales Corp., Station E, Buffalo 7. New York.

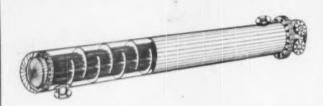
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### NINTH—In a series of illustrations showing types of Heat Exchangers designed and manufactured by the ALASKAN COPPER WORKS.

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Probably scores of our readers who saw this picture in our current North American Review Number, with the story of the new pump developed at St. Lawrence Paper Mills, Three Rivers, Que., (page 106) would recognize SID WILLIAMS, Res. Mgr. But the line identifying him was "dropped".

### **Pin Dinners**

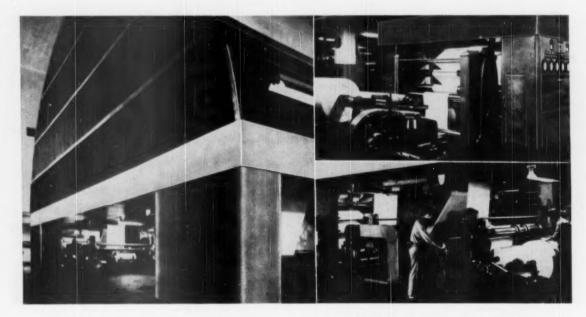
(Continued from Page 55)

Mr. Bloch visited and inspected the West Linn mill and presented pins, assisted by Executive V-P R. A. McDonald and Resident Manager Malcolm Otis. Here J. B. Rauch, yard superintendent, 45 years, and Jack Draper, No. 3 machine tender, 40 years, were chief winners. The Camas dinner is always a big one—88 received pins there and Vice President Frank

The Camas dinner is always a big one—88 received pins there and Vice President Frank N. Youngman presented the pins. Top winners are shown in pictures. Gus Ostenson, manager of paper production, was m. c. and F. A. Drumb,

are shown in pictures. Gus Ostenson, manager of paper production, was m. c. and F. A. Drumb, resident manager, welcomed guests.

At Los Angeles, illness kept away John Macchia, 35 year winner, who came to Southern California with his father, an Italian importer and became a stringer and then bundler, at the plant. Bennie deStefano and Andrew Olson got 30-yr. emblems and Ellen P. Scott, secretary to the manager, a 25 yr. pin.



THIS PQUIPMENT FOR COATING sensitized paper at Johnson City, N. Y., was furnished mainly by John Waldran Carp., J. O. Ress Engineering Carp., and Westinghouse: Left, Waldran Microjet coating machine under arch of huge Ross Engineering dryer housing. Right, top, Waldran tension toke-up unit and automatic winder that changes from full roll to empty core by means of air lance. Right, bettom, Microjet coating unit featuring Waldran air jet doctor and automatic paper unrall.



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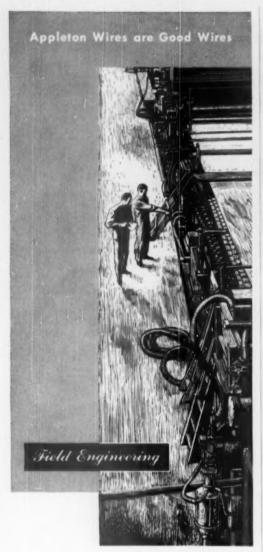
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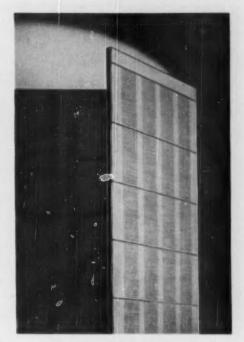
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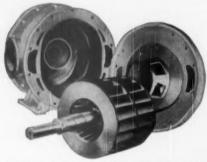
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